İçindekiler / Contents

EGE AKADEMİK BAKIŞ
Cilt 2020 • Sayı 3 • July 2020

EGE ACADEMIC REVIEW
Volume 20 • Number 3 • July 2020

Ege Akademik Bakış

Ege Academic Review

Ekonomi, İşletme, Uluslararası İlişkiler ve Siyaset Bilimi Dergisi

Journal of Economics, Business Administration, International Relations and Political Science

Cilt 20 • Sayı 3 • Temmuz 2020
Volume 20 • Number 3 • July 2020

ISSN 1303-099X

ISSN – 1303-099X

EGE AKADEMİK BAKIŞ

Ekonomi, İşletme, Uluslararası İlişkiler
ve Siyaset Bilimi Dergisi

EGE ACADEMIC REVIEW

Journal of Economics, Business Administration,
International Relations and Political Science

Cilt 20 • Sayı 3 • Temmuz 2020
Volume 20 • Number 3 • July 2020

Yayınlanma Sıklığı / *Frequency:* **Yılda dört kez** / *Four Times in a Year*

Yayınlayan / *Publisher*
Ege Üniversitesi, İktisadi ve İdari Bilimler Fakültesi
Bornova 35100 İZMİR / TÜRKİYE

E-mail: eab@mail.ege.edu.tr

Basım Yeri: Ege Üniversitesi Basımevi Müdürlüğü **Basım Tarihi:** 1 Temmuz 2020
T.C. Kültür ve Turizm Bakanlığı Sertifika No:18679

Ege Akademik Bakış

Ege Akademik Bakış Dergisi, iktisat, işletme, uluslararası ilişkiler ve siyaset bilimi alanlarında çalışan akademisyenler, araştırmacılar ve profesyonellerin görüşlerini paylaştıkları bir forum oluşturmak amacıyla, bu alanlarda yapılmış olan uluslararası çalışmaları kapsamaktadır. Ege Üniversitesi İktisadi ve İdari Bilimler Fakültesi tarafından Ocak, Nisan, Temmuz ve Ekim aylarında olmak üzere yılda dört defa yayınlanan hakemli bir dergi olup, Türkçe veya İngilizce olarak kaleme alınmış tüm çalışmalar dergide yayınlanmak üzere gönderilebilir. Ege Akademik Bakış Dergisi aşağıdaki veri tabanlarınca taranmaktadır:

- EconLit (http://www.aeaweb.org/)
- ULAKBİM, Sosyal ve Beşeri Bilimler Veri Tabanı (http://www.ulakbim.gov.tr/)
- Emerging Sources Citation Index (ESCI)
- Director of Open Access Journals(http://www.doaj.org/)
- EBSCO Publishing (http://www.ebscohost.com/)
- PERO(http://knjiznica.irb.hr/pero)
- Scientific Commons(http://en.scientificcommons.org)
- WorldWideScience(http://worldwidescience.org)
- ProQuest(http://www.proquest.com)
- ASOS Index(http://www.asosindex.com)
- RePEc (http://www.repec.org)

Makaledeki görüşler yazarlarına aittir. Dergide yayınlanan makaleler kaynak göstermeden kullanılamaz.

Ege Academic Review includes international papers about economics, business administration, international relations and political science with the aim of providing a forum for academicians, researchers and professionals interested in these fields. This journal is subject to a peer-review process. Ege Academic Review is published by Ege University Faculty of Economics and Administrative Sciences for four times in a year. Papers written in Turkish and English can all be sent in order to be published in the journal. The articles in Ege Academic Review are indexed/abstracted in:

- EconLit (http://www.aeaweb.org/)
- ULAKBİM, Social Sciences and Humanities Database (http://www.ulakbim.gov.tr/)
- Director of Open Access Journals(http://www.doaj.org/)
- EBSCO Publishing (http://www.ebscohost.com/)
- PERO(http://knjiznica.irb.hr/pero)
- Scientific Commons(http://en.scientificcommons.org)
- WorldWideScience(http://worldwidescience.org)
- ProQuest(http://www.proquest.com)
- ASOS Index(http://www.asosindex.com)
- RePEc (http://www.repec.org)

Authors are responsible for the content of their articles. Papers published in the journal can not be quoted without reference.

Cilt 20 • Sayı 3 • Temmuz 2020
Volume 20 • Number 3 • July 2020

İçindekiler / Contents

EGE AKADEMİK BAKIŞ / *EGE ACADEMIC REVIEW*

Cilt 20 • Sayı 3 • Temmuz 2020
SS. 153 / 165
Doi: --
Başvuru Tarihi: 21.11.2019 • Kabul Tarihi: 31.05.2020

Towards Qualified Human Resources in the Hospitality Industry: A Review of the Hospitality Management Competencies

Rahman TEMİZKAN[1] *https://orcid.org/0000-0002-9750-1543*
Orhan YABANCI[2] *https://orcid.org/0000-0001-5079-5030*

ABSTRACT

The increasing internationalization and demands of the global market have put pressure on organizations to equip their staff with critical competencies. Therefore, the purpose of the study is to identify the core competencies regarded as essential in entering the senior management positions of the hotel industry. By employing a mixed method of both quantitative and qualitative techniques, the study was carried out in Turkey. The findings suggest that the core competencies pertain to the leadership, interpersonal, administrative, and conceptual/creative domains of the competency domain model.

Keywords: core competencies; hotel industry; hospitality management competencies; human resource development, the competency domain model

1. Introduction

Today, it is generally agreed that competencies are the critical elements for a company's long-term success as the increasing internationalization and demands of the global market have required organizations to equip their staff with the key competencies to enable them to work within diverse environments (Nolan, Conway, Farrell & Monks, 2010). Internationalization, as a conspicuous phenomenon of the twentieth and twenty-first centuries, compels tourism and hospitality firms to compete, attract more tourists and boost their profits (Isik, Dogru & Sirakaya-Turk, 2018; Dogru, Isik & Sirakaya-Turk, 2019). Hence, it drives people to adapt to changing and evolving demands in an extremely competitive environment. Digitalization, apart from internationalization, is the ultimate phenomenon that has already started to influence and shape a plethora of businesses, including tourism, in their manifold aspects. Competencies of employees and human resources activities and routines overall are just some of the aspects that digitalization is revolutionizing. As digitalization is changing and streamlining businesses and their human resources processes (Thite, 2019; Baum, 2015), it is transforming the employment requirements and requiring human resources to be equipped with ultimate competencies.

Since tourism is one of the well-known service industries that people work in favor of people (Baum, 2006) and since tourists are much more quality demanding (Baum & Kokkranikal, 2005) than ever before, competencies of employees have become critically important for tourism employers over the past few decades. As the quality of services depends on the way they are offered by employees (Belias, Vasiliadis & Velissariou, 2020), both short- and long-term success of tourism and hospitality firms, now, mostly thrive on competent employees. Furthermore, today points to much more competitive tourism business and a much more demanding tourist profile that makes competency-based recruitment a matter of utmost concern.

Acknowledgement
This research was partially supported by the BAP Commission of Eskisehir Osmangazi University (Grant no. 201725A232)

[1] Associate Professor, School of Tourism Management, Eskisehir Osmangazi University, Eskisehir, Turkey
[2] PhD, School of Tourism Management, Eskisehir Osmangazi University, Eskisehir, Turkey, Correspondence: oyabanci@ogu.edu.tr

The discussion on hospitality management competencies first appeared in the early 1970s (see Morris, 1973). Still much to be done, many studies have been carried out examining the facts and figures of the concept till the day. From the seminal studies of Mariampolski, Spears & Vaden (1980), Buergermeister (1983), and particularly Tas (1988) onwards, researchers, such as Baum (1990), Christou (2002), Whitelaw (2005), Nolan et al. (2010) brought the subject to discussion. These studies, carried out at different times and locations with different samples, investigated the topic with its numerous aspects. For example, Morris (1973) examined job competencies expected of hotel and restaurant administration graduates for entry-level management positions by applying to the paid membership of the Oklahoma Restaurant Association.

Similarly, Mariampolski, Spears & Vaden (1980) probed into competencies for entry-level restaurant managers by referring to experienced professionals in restaurant management in the USA. Buergermeister (1983) assessed the educational skills and competencies needed by entry-level hospitality managers in the USA. Probably, the most influencing study on the subject belonged to Tas (1988). In his seminal study, he delved into the most important competencies for hotel general-manager trainees in the USA with a survey of thirty-six items questionnaire. Baum (1990), readdressing the study of Tas (1988), determined the competency needs of hotel industry in the UK by comparing the participants' ratings of competency statements of the two studies, while Christou (2002) discovered the competencies for Greek hotel industry by comparing the mean rates of competencies with those of Tas (1988) and Baum (1990) with the help of the same questionnaire.

In contrast with the countries in which the studies above were carried out, competencies for hotel management positions in countries such as Turkey have not been well studied until the day. Moreover, there is an urgent need to identify the most recent competencies sought to enter the management positions in the industry. Therefore, the main purpose of the study is to identify the most recent key competencies for the management candidates of the hotel industry by referring to some previous studies written in the last decade along with the recent job ads for hotel management candidates and make some recommendations for future research thereupon. The sub-purposes to focus on are as follows: (a) Identify the core competencies for executive positions in the Turkish hotel industry, (b) Compare the perceptions of professionals and academics of the core competencies and evaluate the results of the study in terms of previous studies.

2. Literature Review

Most customers expect the best services (Dieke, 2001). With the growing impetus of technology, customers have become more demanding, and thus the competition has become more challenging (Oakland, 2014) in an environment of economic uncertainties (Isik, Sirakaya-Turk & Ongan, 2019). Kotler, Bowen & Makens (2010) propound that understanding market settings and customer demands should be the starting point to develop lucrative customer links. Furthermore, the new management model suggests that the focus is on how well we are responding to customers' needs, but not how much we are making (George & Weimerskirch, 1994). The only way to meet customers' needs seems to be thinking quality-centric (Evans & Dean, 2003; Swarbrooke & Horner, 2007). If understood appropriately and devoted to hard work, quality is measurable, and along with that substantially profitable (Crosby, 1980; George & Weimerskirch, 1994). As quality improves, costs decrease, and thus it results in improved market share, profit, and growth (Ross & Perry, 1999).

It is well known that the concept of quality is of manufacturing industry origin. It gained wide prominence in time, and the concept was borrowed by various industries, particularly the services (Williams & Buswell, 2003). Since then, quality in services has been a matter for concern as prevalent as that in manufacturing. Today, it is generally agreed that success and customer loyalty in services are attained through the quality of services that leads to customer satisfaction rather than the price (Kandampully & Suhartanto, 2000; Christou, 2002).

When the quality of services is under consideration, there are three parties involved in the process: (1) the service provider, (2) the service receiver as an individual, (3) and the service receiver as a company (Rosander, 1985). Here, the emphasis should be given to the receiver of service rather than the provider concerning the nature of the concept. Namely, quality achievement in services depends on good MOT (Normann, 1977) experiences and satisfaction of both internal (employees) and external customers of a firm (Kotler et al., 2010; George & Weimerskirch, 1994; Bouranta, Chitiris & Paravantis, 2008). Well satisfied customers stay "loyal" (Kandampully & Suhartanto, 2000) and share their

contentment with people at every turn (Kotler et al., 2010). In other words, customer satisfaction results in the reduction of customer relations fade (Touminen & Kettunen, 2003) to the least possible level. It thus forms a natural market phenomenon by word of mouth (Helm, 2003) that Kotler et al. (2010) define it overall as service-profit-chain.

2.1. Competent Human Resources as a Factor of Service Quality

Human resources have become a vital source for attaining organizational performance (Devanna, Fombrun & Tichy, 1981) and quality, particularly in the post-industrial community. In the last two decades, human resources also have taken center stage in tourism development and management in many countries due to the changing trends in tourism and the competitive environment (Dieke, 2001). Today, tourists are much aware of the quality, and the provision of quality services is becoming ever more essential for the industry to survive in an increasingly competitive international market (Baum & Kokkranikal, 2005; Isik, Sirakaya-Turk & Ongan, 2019). Kotler et al. (2010) propound that people are one of the three main ways that service companies of the day can differentiate their service delivery. Here the word 'people' corresponds to more able and reliable customer contact staff of an organization that its competitors do not have (Kotler et al., 2010). Correspondingly, a service quality guru Gronroos (1988) defines a set of criteria for good perceived quality in services consisting of professionalism and skills, attitudes and behavior, accessibility and flexibility, reliability and trustworthiness, recovery, reputation, and credibility, all of which are of people related, unequivocally.

If organizational service quality (Christou, 2002; Jolliffe & Farnsworth, 2003) and success are gained through people, then the skills (Pfeffer, 1994) and competencies (Tas, 1988; Baum, 1990) of those people are of critical importance. Todays' firms are in a demanding competition for obtaining and retaining the most competent people due to common skills shortage (D'Annunzio-Green, Maxwell & Watson, 2005; Ayres, 2006). Having industry-specific skills is no longer enough for securing a satisfying job; quite the contrary, competence in problem-solving, communicating with others, allocating resources conveniently, understanding complex interrelationships of the work environment, and so forth is the prevailing trend for employability (Fournier & Ineson, 2010). In that regard, tourism professionals need to have knowledge, skills, abilities, and other characteristics (KSAOs) to be able to cope with various problems and be prepared for future professional life (Kay & Morcarz, 2004). That is a critical requirement for them to gain a sustainable competitive advantage (Lepak & Snell, 1999; Auw, 2009; Ployhart & Moliterno, 2011).

2.2. The Competency Domain Model

As the main purpose of the study was to discover core competencies for hotel executives, a popular model on the classification of competencies put forth by Sandwith (1993) was employed to be able to predicate the work on a further theoretical frame as fleshed out under the findings section.

The competency domain model (CDM) was based on Katz's (1955) concept of skills needed by supervisors, managers, and executives in organizations. Katz (1955) identified three fundamental areas that consisted of technical, human, and conceptual skills for managers at different levels. However, the CDM delineated competencies by extending these three areas through field research into five specific domains as follows; (1) conceptual/creative, (2) leadership, (3) interpersonal, (4) administrative, and (5) technical. The five-domain model propounds that the core activity of managers is to make decisions. The decision-making process consists of choosing appropriate responses based on perceived factors in a particular activity, and it pivots on the competencies possessed by the decision-maker outlined in the specified domains.

In summary, the conceptual/creative domain refers both to the cognitive skills that are associated with comprehending important elements of a job and to the understanding of brain-mind functioning and creative thought. The leadership domain turns thought into productive action by providing a strategic link between the conceptual/creative domain and the other domains. The interpersonal domain concentrates on the skills for effective interaction with others, such as customers and organizational peers. The technical domain refers to the actual work that the organization does, while the administrative domain is thought to have evolved as a way of addressing those areas of activity in organizations that lie between the interpersonal and the technical domains. Namely, it refers to the personnel and financial management aspects of organizational life.

2.3. Setting the Hypotheses

Stated in the introduction, researchers such as Tas (1988) and Baum (1990) determined competencies

for general managers (GMs) by consulting hotel professionals. Studies of Nelson & Dopson (2001), Christou (2002), and Nolan et al. (2010) examined them in a broader context by comparing expectations of professionals with those of graduates. However, the study, being inspired by the latter, aims to compare the perceptions of professionals with those of academics as it was believed that instead of just relying on graduates, also asking for opinions of academics would be a more advantageous choice, since academics are one of the distinctly qualified stakeholders of the industry, and thus well capable of assessing the hospitality management competencies.

Following the second purpose of the study, the perceptions of professionals and academics of hospitality management competencies that were delineated in the four domains of the CDM were statistically compared, and thus the hypotheses tested are as follows;

Hypothesis 1: There is a significant difference between the perceptions of professionals and academics of the conceptual/creative domain,

Hypothesis 2: There is a significant difference between the perceptions of professionals and academics of the leadership domain,

Hypothesis 3: There is a significant difference between the perceptions of professionals and academics of the interpersonal domain,

Hypothesis 4: There is a significant difference between the perceptions of professionals and academics of the administrative domain.

3. Methodology

3.1. The Population and Determining the Sample Size

The study was carried out in Turkey, located in Southeast Europe. The population of the study consisted of both GMs and HR managers (HRMs) of five-star hotels and Ph.D. graduate academics employed as professors at the higher tourism programs of the country. The Ministry of Culture and Tourism reported that there was a total of 618 five-star hotels by the end of 2015. The majority of those were regular five-star (523), and the rest consisted of resorts (67) and thermal hotels (28). As the population of professionals was based on the given numbers, only one manager (either a GM or HRM) per hotel was surveyed. On the other hand, the second group was comprised of 475 academics who were affiliated with higher tourism programs in tourism, business, business and management, commercial sciences, economics, economic and administrative sciences, economic-administrative and social sciences schools as reported by the Council of Higher Education (December 2016). Of the 475 academics, 322 were employed as assistant professors, 98 as associate professors, and 55 as professors. By depending on these statistics, the sample size was determined to be approximately 243 for the professionals, and 218 for the academics with a 95 percent confidence and $p = .5$ using the equation proposed by Yamane (1967) and restated by Israel (1992).

3.2. Data Collection, Survey Design, and Pilot Testing

Based on survey research, the study employed a questionnaire that is used to gather information on the backgrounds, behaviors, beliefs, or attitudes of large numbers of people. The questionnaire layout consisted of two parts. Part one measured the participants' demographics, such as age, gender, education and occupation, job experience, job position, and job affiliation. The age variable was adapted from the United Nations' (2016) age classification for social stratification and mobility, while the job experience variable was derived from Pardo & Ruiz-Tagle (2017).

Part two consisted of competency statements that measured the perceptions of participants. The statements were arranged in five-point Likert type scaling that was comprised of essential (mean rating over 4.50), very important (4.49-3.50), important (3.49-2.50), slightly important (2.49-1.50) and unimportant (under 1.49) categories (Tas, 1988; Nelson & Dopson, 2001).

Part two was designed using two sources. The first source was the previous studies on hospitality management competencies, such as Tas (1988), Tsai, Goh, Huffman & Wu (2006), Nolan et al. (2010), and Cheung, Law & He (2010). As the main source of the study, all 36 competency items of Tas (1988) were adopted. Tas (1988) was conducted in the US; therefore, two of the items were slightly altered in the path of Baum (1990) and Christou (2002) as these two suited the nature of our study better. Each competency item of the four studies was compared one to another, and consequently, 29 items that differed from those of Tas (1988) were also adopted. Of the 29 items, 15 were derived from Nolan et al. (2010), 12 from Tsai et al. (2006), and 2 from Cheung et al. (2010).

The second source was job ads. Job ads seem to be a good source for driving implications on employers'

expectations of employee quality. Therefore, the second examination was conducted on the top-browsed career websites of Turkey (Alexa, 2016), such as kariyer.net, eleman.net, yenibiris.com, secretcv.com, and elemanonline.com.tr. These websites were browsed periodically from March 1 through March 24, 2016, just before the domestic peak season of the industry, and about three hundred advertisements published on those websites were recorded down electronically. These ads were analyzed by employing a content analysis that is a good way of analyzing big data such as web sources easily, effectively, and systematically.

The job ads analysis resulted in a list of 179 items in total. 24 of the items were eliminated from the list as they did not possess any attribute of a competency approach. The remainders were sorted by importance depending on the categories derived from Nelson & Dopson (2001) and Brown (2010). Consequently, a total of 14 items that fell under the categories of essential, very important, important, and slightly important were compared with the items retrieved from the literature review as described above. The comparison showed that most of the items corresponded in meaning. Therefore, some of the items were altered to extend and update their meanings, while some others were left as is. Consequently, final items decided to be included in the questionnaire, either as pristine or altered, are shown in Table 1.

Table 1: Final Items Added in the Questionnaire after Literature - Job Ads Comparison

Competency statements
Knows multiple languages both written and orally
Uses business technology effectively (e.g., reservation systems, MS Office, electronic cash registers, POS devices, etc.)
Thinks customer satisfaction-oriented
Knows budgeting
Possesses needed leadership qualities [e.g., analytical/ critical thinking skills (problem-solving, etc.), team working skills, etc.] to achieve organizational objectives
Knows sales techniques

Following the analyses, the raw-form questionnaire of sixty-seven competency items underwent a couple of pilot tests. Although there is always some probability of error, and no measurement is perfectly reliable at all, pretesting is a good way of increasing the reliability of research.

The initial pretest was carried out in EMITT 2017, one of the prominent international tourism fairs of Europe with purposive sampling that is a method providing a chance to pick cases that are judged to be typical of the population. During the four-day fair, GMs or HRMs of the participating five-star hotels were asked to fill out the draft questionnaire, and consequently, 21 responses were returned in total. Just a few days later, the draft also was either emailed or handed in person to some of the prominent tourism academics of the country. 8 of the academics responded favorably soon after. Eventually, data obtained through a total of 29 questionnaires were tested for its reliability through SPSS, and the analysis resulted in high internal consistency of the 67 items, *Cronbach's α = .96*.

The initial pretest was conducted concurrently with cognitive interviewing through which participants frankly convey their thoughts, thinking aloud to assess the functionality and validity of the questionnaire. Some capable participants were asked for their opinions on the overall design. By eliciting much cordial regard, some of the participants commented that the questionnaire looked quite fine. For some other participants, it seemed to be a product of a detailed work mirroring the prevalent expectations of the professionals. These comments could be construed as if the questionnaire's face validity was achieved in general. However, some people also commented that it was too long in size, thus exhausting and dramatically time-taking. As to Neuman (2014), there is no definite length in questionnaires, but as their length increase**s**, the chance of responding decreases substantially. Lund & Gram (1998) also state that the length of a questionnaire affects the response rate significantly. Therefore, the length of the questionnaire was decided to be lessened to a more reasonable degree to make it more compact and applicable. According to Tas (1988), competencies over 3.50 should be regarded as considerably important. By relying on that, items below 3.50 were removed from the list to reduce the burden on participant**s**, reduce the probability of error in response due to inattention to the response task, increase their possibility of participation, and thus boost the attendance rate.

The rectified questionnaire was emailed to more sampling units to test its new format, and consequently, the attendance rate doubled in quite a short time. Furthermore, as it is hard enough to expect consistent reactions from participants regarding a questionnaire, and as there is always some risk of bias, the questionnaire's design, color, and rubric that could discomfort

the viewer were revised to minimize such potential negative effectors.

The revised form of the questionnaire was sent to sampling units online, which is one of the cheapest, simplest, and fastest methods. The delivery was made with simple random sampling that is a probability sampling technique in which every member of the population has an equal chance of being selected. Eventually, data obtained from a total of 114 questionnaires were tested for its reliability in which 48 competency statements had high internal consistency, *Cronbach's* $\alpha = .96$.

As both pilot tests proved that the questionnaire was highly reliable, the final form of it was sent to the population online. However, the professionals were contacted by phone initially to ask for their participation in the survey and get their email addresses. Along with that, executives of some of the largest hotel chains and hotel associations were contacted to ask for their reference to augment participation. Thereafter, most of the professionals and the academics were invited via email to participate in the online survey. It took months to distribute the questionnaire to the population. Many of the sampling units that received online invitation responded in a few days, while it took much more for the others to respond. Many sampling units were prompted a couple of times to attend the survey. Finally, over a ten-month effort resulted in 462 responses in total.

3.3. Statement of the Normality Assumption

The study was based on parametric testing. Before conducting a parametric test, data sets to be analyzed are generally tested for their normality and are expected to have a normal distribution. However, according to the central limit theorem, if samples are larger than 30 (40 or 200 in some statements), the sampling distribution is supposed to be normally distributed in any case without applying to any certain criteria.

4. Findings and Discussion

4.1. Demographics of the Participants

Demographics analysis determined that most of the participants (53%) were professionals, while the others were academics, as shown in Table 2. Of the whole participants, 48 percent were females, and 52 percent were males. Almost all the participants were middle-aged (71 percent were aged between 24 and 44). 28 percent were aged between 45 and 64. 1 percent of the participants were aged over 65, and less than one percent was aged under 24. Regarding their positions, 44 percent of the participants were HRMs. 26 percent were assistant professors. 15 percent were associate professors. 9 percent were GMs, and 6 percent were full professors. Besides, more than one half of them (55%) held a graduate degree (at least a master's degree), which indicated that most of the participants were highly intellectual. 35 percent held an undergraduate degree, and 8 percent held an associate degree, while only 2 percent graduated from either a middle or high school. Along with that, 42 percent of the participants majored in tourism. 28 percent majored in business administration. 7 percent majored in economics, and the rest majored in some other fields. Finally, 47 percent of the participants had a work experience of 0-12 years. 30 percent had a work experience of 13-21 years, and 23 percent had work experience of 22+ years.

4.2. Classifying the Core Competencies through a PCA Analysis

In this section, factor analysis was employed to discover and understand the structure of the latent variables of the data set, reduce it to a more manageable size, explore how well the items are related to each other, form clusters or factors, and thus group them by more generic names. Therefore, a principal component analysis (PCA) that is of the same functionality with factor analysis and a special case of it, yet, a less complex technique was conducted on the 48 items with orthogonal rotation (varimax). As shown in Table 3, the Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .87, and all KMO values for individual items were above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity χ^2 (105) = 2479.78, $p < .000$, indicated that correlations between items were adequately large for PCA. An initial analysis run to obtain eigenvalues for each component in the data suggested that four components had eigenvalues over Kaiser's criterion of 1 and explained 63.5% of the variance overall.

The analyses were conducted with theoretical reference of the CDM outlined before, and thus competencies of which's categorization did not comply with the theory were omitted from the measure. Hence, of the fifteen items that clustered around four factors, factor 1 consisting of three items referred to the conceptual/creative domain. Factor 2, consisting of five items referred to the leadership domain. Factor 3 consisting of three items referred to the interpersonal domain, and factor 4, consisting of four items referred to the

administrative domain. However, no item corresponded to the technical domain, which was ascribed to the fact that the research was conducted considering the senior management positions. Following the categorization phase of the competency statements, a reliability analysis was conducted to test the internal consistency of the residuals. The results indicated that all domains had a moderate reliability; conceptual/creative domain, *Cronbach's α = .74*, leadership domain, *Cronbach's α = .81*, interpersonal domain, *Cronbach's α = .77*, and administrative domain, *Cronbach's α = .79*.

Table 2: Demographics of the Participants

		Frequency	Percent
Group	*Professional/Academic*	244/218	52.8/47.2
Gender	*Female/Male*	220/242	47.6/52.4
Age	*(Under) 24/25-44/45-64/(Over) 65*	6/326/128/2	1.3/70.6/27.7/.4
Position	*GM/HRM/Asst. Prof./Assoc. Prof./Prof.*	40/204/121/68/29	8.7/44.2/26.2/14.7/6.3
Education Degree	*Middle or high school/Associate/Undergraduate/ Graduate*	11/36/163/252	2.4/7.8/35.3/54.5
Major field	*Tourism/Business administration/Economics/Other*	196/129/32/105	42.4/27.9/6.9/22.7
Work Experience	*0-12/13-21/(Over) 22*	217/140/105	47.0/30.3/22.7

Table 3. Results of the PCA Analysis: Competencies Delineated into the Four Domains of the Competency Domain Model

	Factors			
	Conceptual/ Creative	***Leadership***	***Interpersonal***	***Administrative***
Uses past and current information to predict future departmental revenues and expenses	.839			
Uses past and current information to predict future hotel reservations	.827			
Assists in establishing organizational objectives and their priorities	.525			
Possesses needed leadership qualities [e.g., analytical/critical thinking skills (problem-solving, etc.), team working skills, etc.] to achieve organizational objectives		.750		
Strives to achieve positive working relationships with employees		.713		
Maintain professional and ethical standards in the work environment		.683		
Motivates employees to achieve the desired performance		.665		
Demonstrates professional appearance and poise		.633		
Manages guest problems with understanding and sensitivity			.842	
Develops positive customer relations			.823	
Thinks customer satisfaction-oriented			.701	
Follows hygiene and safety regulations to ensure compliance by the organization				.799
Effectively manages life-threatening situations, such as fire, bomb threat, serious illness, etc.				.760
Follows established personnel management procedures in the supervision of employees				.700
Follows the legal responsibilities associated with hotel operations				.682
Eigenvalues	1.94	2.87	2.13	2.58
% of variance	12.91	19.14	14.22	17.23
Cronbach's α	.74	.81	.77	.79

4.3. Testing of the Hypotheses

The four hypotheses of the study stated above were tested by employing a series of independent samples t-tests to determine whether the two groups' means were different from each other. The results shown in Table 4 are reported in the following sections.

Perceptions of the participants of the conceptual/creative domain. *Hypothesis 1: There is a significant difference between the perceptions of professionals and academics of the conceptual/creative domain*

The results of the t-test carried out to test Hypothesis 1 indicated that there was no significant difference between the perceptions of professionals and academics of the conceptual/creative domain. Therefore, Hypothesis 1 was not supported, which means professionals and the academics concurred on the importance level of the conceptual/creative domain.

Perceptions of the participants of the leadership domain. *Hypothesis 2: There is a significant difference between the perceptions of professionals and academics of the leadership domain*

The results of the t-test carried out to test Hypothesis 2 indicated that there was no significant difference between the perceptions of professionals and academics of the leadership domain. Therefore, Hypothesis 2 was not supported, which means professionals and academics also concurred on the importance level of the leadership domain.

Perceptions of the participants of the interpersonal domain. *Hypothesis 3: There is a significant difference between the perceptions of professionals and academics of the interpersonal domain*

The results of the t-test carried out to test Hypothesis 3 indicated that there was a significant difference between the perceptions of professionals and academics of the interpersonal domain, $p < .05$. Therefore, Hypothesis 3 was supported, meaning professionals and academics do not concur on the importance level of the interpersonal domain. Furthermore, the group statistics chart revealed that academics' mean ($M = -,14$, $SE = ,06$) was larger than that of professionals ($M = ,13$, $SE = ,06$).

Perceptions of the participants of the administrative domain. *Hypothesis 4: There is a significant difference between the perceptions of professionals and academics of the administrative domain*

The results of the t-test carried out to test Hypothesis 4 indicated that there was a significant difference between the perceptions of professionals and academics of the administrative domain, $p < .05$. Therefore, Hypothesis 4 was supported, meaning professionals and the academics do not concur on the importance level of the administrative domain just as it was in the interpersonal domain. It should be also noted that academics' mean ($M = -,10$, $SE = ,07$) was larger than that of professionals ($M = ,09$, $SE = ,06$).

Testing the effect of demographics on the participants' perceptions. Apart from the t-test analyses, a couple of two-way ANOVA tests were carried out to see whether perceptions of the two groups were affected by some demographics, such as gender, age, work experience, and major (field of specialization). The results indicated that their perceptions were not affected by gender, age, or work experience. However, they were significantly affected by their majors (i.e., tourism, business administration, economics, and other), $p < .05$. The Bonferroni post hoc test revealed that there was a significant difference between the major of tourism and the major of business administration, $p < .05$. The test rendered no other significant-difference results for the rest of the pairs of comparison between the four categories of major.

4.4. Comparing the Competency Means with the Antecedents

As one of the purposes of the study was to appraise the results regarding the previous studies, this section was allotted to the comparison of competency means with those of some antecedents. Because of the unique pattern of the study, it was not possible to compare its results in every detail with its counterparts. However, there are a couple of renowned studies, such as Tas (1988), Baum (1990), Christou & Eaton (2000), Christou (2002), and Whitelaw (2005), that allowed us to make some inferences from one-on-one item comparisons. The means of the competencies, as shown in Table 5, revealed that there is an inconsistent pattern of the overall means except for the first item (C1). This fluctuating pattern seems to be quite natural when some factors are considered. These variations may be resulting from the fact that these studies were carried out in uncontrollably different settings and several countries. Besides, the data was gathered from the studies conducted at discrete time segments. For example, it has been almost thirty years between the first and last studies. Apart from those, there might be

some perceptual biases due to linguistic dissimilarities and cultural diversities.

One thing to note is that all means of the six studies are over 3.50, indicating each competency statement falls either into the category of very important or into the category of essential. In that case, the means above, along with the overall findings, suggest that the competencies listed in Table 5 are critical in entering the senior management positions of the industry. For example, by mutual consent of the five studies except for Ireland, C1 is the most important competency, although the means vary by study. As five of the means are over 4.50, C1 falls into the category of essential. Likewise, the study consists with Baum (1990) on C5, C6, C13, and C15, with Whitelaw (2005) on C4 and C5, and finally with Christou (2002) on C7 and C15 that reinforces the validity of those items. Furthermore, C2, C4, C8, C10, C13, and C14 have exalted overall despite their lower means when compared to the previous studies. Contrariwise, C6, C9, and C12 have abased in general. C5, C7, C11, and C15 has a fluctuating pattern. C3 is a novel requisite for senior management candidates, which did not appear in the previous studies.

One thing to note is that the means of the study are lower than the means of other studies in general. For example, the highest value of the study is 4.51, whereas it goes up to 4.89 in the others. Regardless of the counterparts, the study interestingly indicates that the competencies of interpersonal and leadership domains, chiefly but not barely, cluster in the upper rows of the list by the mean. With a more inconsistent pattern, the competencies of the administrative domain surpass those of the conceptual/creative domain. However, the leadership domain, with its five items outstands in general. Overall, the results seem rather decent and reasonable for a senior management position.

Table 4: The T-test Results of the Two Groups' Perceptions of the Competency Domains

Domains	t	df	Sig. (2-tailed)	Mean differences	Std. error differences
Conceptual/Creative	.341	454	.733	.03197247	.09383999
Leadership	-1.846	454	.066	-.17261548	.09350169
Interpersonal	2.981	454	.003	27710716	.09294653
Administrative	2.225	437.354	.027	.20868721	.09378249

Table 5: Means of the Competency Statements in Sequence and Comparison of the Studies

	Core competencies	Domains	Means	Whitelaw (2005) Ireland[1]	Christou (2002) Greece[2]	Christou & Eaton (2000) Greece[3]	Baum (1990) UK[4]	Tas (1988) USA[5]
C1	*Manages guest problems with understanding and sensitivity*	*Interpersonal*	1: 4.51	10: 4.44	1: 4.87	1: 4.89	1: 4.81	1: 4.80
C2	*Follows the legal responsibilities associated with hotel operations*	*Administrative*	2: 4.45	9: 4.45	10: 4.54	11: 4.50	7: 4.54	14: 3.90
C3	*Thinks customer satisfaction-oriented*	*Interpersonal*	3: 4.45	-	-	-	-	-
C4	*Possesses needed leadership qualities [e.g., analytical/critical thinking skills (problem-solving, etc.), team working skills, etc.] to achieve organizational objectives*	*Leadership*	4: 4.36	4: 4.50	8: 4.59	5: 4.60	9: 4.40	7: 4.48
C5	*Demonstrates professional appearance and poise*	*Leadership*	5: 4.33	5: 4.50	3: 4.73	2: 4.83	5: 4.56	3: 4.61
C6	*Develops positive customer relations*	*Interpersonal*	6: 4.32	2: 4.55	2: 4.76	3: 4.72	6: 4.55	5: 4.60
C7	*Maintain professional and ethical standards in the work environment*	*Leadership*	7: 4.30	12: 4.37	7: 4.60	6: 4.58	9: 4.40	2: 4.69
C8	*Assists in establishing organizational objectives and their priorities*	*Conceptual/ Creative*	8: 4.21	-	16: 4.31	12: 4.42	22: 3.92	21: 3.67
C9	*Strives to achieve positive working relationships with employees*	*Leadership*	8: 4.21	6: 4.49	5: 4.66	4: 4.63	4: 4.57	6: 4.52
C10	*Effectively manages life-threatening situations, such as fire, bomb threat, serious illness, etc.*	*Administrative*	9: 4.20	-	13: 4.42	15: 4.33	11: 4.37	11: 4.09
C11	*Follows hygiene and safety regulations to ensure compliance by the organization*	*Administrative*	10: 4.15	8: 4.49	11: 4.50	13: 4.38	2: 4.71	13: 3.99
C12	*Motivates employees to achieve desired performance*	*Leadership*	11: 4.14	1: 4.60	9: 4.57	7: 4.58	8: 4.52	8: 4.44
C13	*Uses past and current information to predict future departmental revenues and expenses*	*Conceptual/ Creative*	12: 4.01	-	19: 4.21	17: 4.24	12: 4.31	18: 3.75
C14	*Uses past and current information to predict future hotel reservations*	*Conceptual/ Creative*	13: 3.94	-	20: 4.18	22: 3.95	18: 4.06	23: 3.61
C15	*Follows established personnel management procedures in supervision of employees*	*Administrative*	14: 3.91	32: 4.04	14: 4.38	19: 4.11	14: 4.23	9: 4.33

Sources: 1Baum (2006), 2Christou (2002), 3Christou & Eaton (2000), 4Baum (1990), 5Tas (1988).

5. CONCLUSION

Even though the tourism industry has not been qualification-minded historically (Evans, 1993), the increasing internationalization, digitalization, and demands of the global market have required hotel employees, particularly the managers, to be equipped with the critical competencies to be able to achieve organizational service quality and success. This study identified the most recent competencies for being promoted and assigned to an executive position in the hotel industry. Despite being not truly coincident and conducted in different settings, circumstances, and time series, findings of the study confirm Tas (1988), Baum (1990), Christou & Eaton (2000), Christou (2002) and Whitelaw (2005) in general, which indicates that the agreed competencies of the six studies are critically essential. Moreover, the study reveals that the critical competencies sought in entering the senior management positions refer to the leadership, interpersonal, administrative, and conceptual/creative domains. Therefore, candidates who are preparing themselves for senior management positions are expected to be competent in the specified domains. They should develop and improve their leadership, interpersonal, administrative, and conceptual/creative competencies to be successful in the business. They should be well equipped with up-to-date competencies in terms of the changing expectations of the industry.

The study also indicates that the professionals and the academics concur on the importance level of the conceptual/creative and leadership domains. However, they do not agree on the interpersonal and administrative domains. The gap between the perceptions of the two groups in Turkey of the core competencies might negatively affect the effective preparation of future hotel managers for the business. To eliminate such negativity, the two stakeholders should reciprocally cultivate a robust dialogue and collaboration. For example, they should cooperate closely in the training process of hospitality students. Apart from that, academics should closely follow the trends in the industry and update their curricula to help students improve their qualities, and thus meet the latest expectations of the professionals.

Furthermore, the study revealed that some demographic variables, such as gender, age, or work experience, do not affect the identification of critical competencies. In other words, professionals and academics decide the importance levels of competencies regardless of their genders, ages, and work experiences. However, they determine the importance levels by depending on their majors.

The overall results drive us to make some recommendations for the development of human resources in the tourism and hospitality business. First, the employers should abstain from not being qualification-minded and breeding down-skilling cycle (see Baum, 2002). They should constantly try to cultivate competent people through human resource development instead. Organizations should set functional systems for opening and developing internal career paths of their staff to cope with high levels of staff mobility, knowledge, and skills transfer/migration. Besides, higher tourism institutions should provide the most proper settings for prospective hospitality managers to prepare them well for the challenging tourism business. Hospitality management candidates should seek to develop their competencies through formal, non-formal, and informal education and through on-the-job and off-the-job training to be able to meet the ultimate expectations of supervisors and customers. Finally, the stakeholders, such as professionals, scholars, and governors, should strive to build effective collaborative strategies to nurture competent human resources.

6. Limitations of the Study and Further Research

This study examined the core competencies for senior management positions in the hotel industry of Turkey. Aside from that, it compared the perceptions of the two principal stakeholders of those competencies and then compared the competencies' mean results with those of some antecedents.

Future studies perhaps would go over these studies' findings and test their validity in different contexts, locations, and time-series with different methods and populations. For example, a more extensive comparative study at the international level could investigate the latest expectations and requirements with regard to the competencies of human resources by involving successful professionals, specialists, academics, and also customers, using in-depth qualitative or quantitative methods. Further, future studies could attempt to develop advanced higher education curricula and methods/models for teaching, training, and developing students and trainees in light of the findings of extant studies on the subject.

References

Alexa. (2016, March 15). The top 500 sites on the web. Retrieved from http://www.alexa.com/topsites.

Auw, E. (2009). Human capital capabilities and competitive advantage. *International Review of Business Research Papers*, 5(5), 25-36.

Ayres, H. (2006). Education and opportunity as influences on career development: Findings from a preliminary study in eastern Australian tourism. *Journal of Hospitality Leisure Sports and Tourism Education*, 5(1), 16-28.

Baum, T. (1990). Competencies for hotel management: Industry expectations of education. *International Journal of Contemporary Hospitality Management*, 2(4), 13-18.

Baum, T. (2002). Skills and training for the hospitality sector: A review of issues. *Journal of Vocational Education and Training*, 54(3), 343-364.

Baum, T. & Kokkranikal, J. (2005). Human resource management in tourism. In L. Pender & R. Sharpley (Eds.), *The Management of Tourism*. Chennai: Sage.

Baum, T. (2006). *Human resource management for tourism hospitality and leisure: An international perspective*. London: Thomson.

Baum, T. (2015). Human resources in tourism: Still waiting for change - A 2015 reprise. *Tourism Management*, 50, 204-212.

Belias D., Vasiliadis L. & Velissariou E. (2020). Internal marketing int: The case of human resource empowerment on Greek hotels. In V. Katsoni & T. Spyriadis (Eds.) *Cultural and tourism innovation in the digital era*. Cham: Springer.

Bouranta, N., Chitiris, L. & Paravantis, J. (2008). The relationship between internal and external service quality. *International Journal of Contemporary Hospitality Management*, 21(3), 275-293.

Buergermeister, J. (1983). Assessment of the educational skills and competencies needed by beginning hospitality managers. *Journal of Hospitality and Tourism Research*, 8(1), 38-53.

Cheung, C., Law, R. & He, K. (2010). Essential hotel managerial competencies for graduate students. *Journal of Hospitality and Tourism Education*, 22(4), 25-32.

Christou, E. & Eaton, J. (2000). Management competencies for graduate trainees. *Annals of Tourism Research*, 27(4), 1058-1061.

Christou, E. (2002). Revisiting competencies for hospitality management: Contemporary views of the stakeholders. *Journal of Hospitality and Tourism Education*, 14(1), 25-32.

Crosby, P. B. (1980). *Quality is free: The art of making quality certain*. New York: Mentor.

D'Annunzio-Green, N., Maxwell, G. A. & Watson, S. (2005). Human resource management issues in hospitality and tourism: Identifying the priorities. In N. D'Annunzio-Green, G. A. Maxwell & S. Watson (Eds.), *Human resource management: International perspectives in hospitality and tourism*. Padstow: Thomson.

Devanna, M. A., Fombrun, C. & Tichy, N. (1981). Human resource management: A strategic perspective. *Organizational Dynamics*, 9(3), 51-67.

Dieke, P. U. C. (2001). Human resources in tourism development: African perspective. In D. Harrison (Ed.), *Tourism and the less developed world: Issues and case studies*. Trowbridge: Cabi.

Dogru, T., Isik, C. & Sirakaya-Turk, E. (2019). The balance of trade and exchange rates: Theory and contemporary evidence from tourism. *Tourism Management*, 74, 12-23.

Evans, J. (1993). Tourism graduates: A case of over-production. *Tourism Management*, 14(4), 243-246.

Evans, J. R. & Dean, J. W. (2003). *Total quality: Management organization and strategy*. United States: Thomson-South Western.

Field, A. (2009). *Discovering statistics using SPSS*. Estella: Sage.

Fournier, H. & Ineson, E. M. (2010). Closing the gap between education and industry: Skills' and competencies' requirements for food service internships in Switzerland. *Journal of Hospitality and Tourism Education*, 22(4), 33-42.

George, S. & Weimerskirch, A. (1994). *Total quality management strategies and techniques proven at today's most successful companies*. United States: John Wiley & Sons.

Gronroos, C. (1988). Service quality: The six criteria of good perceived service. *Review of Business*, 9(3), 10-13.

Hall, C. M. (2005). The role of government in the management of tourism: The public sector and tourism policies. In L. Pender & R. Sharpley (Eds.), *The management of tourism*, Chennai: Sage.

Helm, S. (2003). Calculating the value of customer referrals. *Managing Service Quality*, 13(2), 124-133.

Isik, C., Sirakaya-Turk, E. & Ongan, S. (2019). Testing the efficacy of the economic policy uncertainty index on tourism demand in USMCA: Theory and evidence. *Tourism Economics*, 1-14, https://doi.org/10.1177/1354816619888346.

Isik, C., Dogru, T. & Sirakaya-Turk, E. S. (2018). A nexus of linear and non-linear relationships between tourism demand renewable energy consumption and economic growth: Theory and evidence. *International Journal of Tourism Research*, 20(1), 38-49.

Israel, G. D. (1992). Determining sample size. Retrieved from https://a7852d97-a-62cb3a1a-s-sites.googlegroups.com/site/estadisticayunpocomas/tama%C3%B1omuestra.pdf?atta-chauth=ANoY7crE4AnZRqdzHczqfNWB-95NMtWdObXK77UBvLhbQKrDMyGaED_Ef-0SKYu-8c78EEMdtfhhoYfQHihbq7OzqogTXQpGlvcR2kx-Fv813AbTHp2m7Gd3al0KbAJz0sBxqLt7M8AGnNK-BHPfSOFJapYoO4gJ8WGAfd60OTDcTOgDCeS8jx-RqmKf8Lv8bHlwFZUa1uwPgW5Sk_N7lu9gcm6_z_hE-D93cYzaCZTynCobyW1QkCF_BIC4%3D&attredirects=0.

Jolliffe, L. & Farnsworth, R. (2003). Seasonality in tourism employment: Human resource challenges. *International Journal of Contemporary Hospitality Management*, 15(6), 312-316.

Kandampully, J. & Suhartanto, D. (2000). Customer loyalty in the hotel industry: The role of customer satisfaction and image. *International Journal of Contemporary Hospitality Management*, 12(6), 346-351.

Katz, R. L. (1955). *Skills of an effective administrator*. United States: Harvard Business School Publishing.

Kay, C. & Moncarz, E. (2004). Knowledge skills and abilities for lodging management success. *Cornell Hotel and Restaurant Administration Quarterly*, 45(3), 285-298.

Kotler, P., Bowen, J. T. & Makens, J. C. (2010). *Marketing for hospitality and tourism*, New Jersey: Pearson.

Lepak, D. P. & Snell, S. A. (1999). The human resource architecture: Toward a theory of human capital allocation and development. *The Academy of Management Review*, 24(1), 31-48.

Lund, E. & Gram, I. T. (1998). Response rate according to title and length of questionnaire. *Scandinavian Journal of Public Health*, 26(2), 154-160.

Mariampolski, A., Spears, M. C. & Vaden, A. G. (1980). What the restaurant manager needs to know: The consensus. *The Cornell Hotel and Restaurant Administrative Quarterly*, 27(3), 77-81.

Morris, C. O. (1973). *Job competencies expected of hotel and restaurant administration graduates with implications for curriculum development* (Unpublished master's thesis). Oklahoma State University Faculty of Graduate College, Oklahama.

Nelson, A. A. & Dopson, L. (2001). Future of hotel education: Required skills and knowledge for graduates of US hospitality programs beyond the year 2000 part one. *Journal of Hospitality and Tourism Education*, 13(5), 58-67.

Neuman, W. L. (2014). *Social research methods: Qualitative and quantitative approaches*. United States: Pearson Education.

Nolan, C., Conway, E., Farrell, T. & Monks, K. (2010). Competency needs in Irish hotels: Employer and graduate perspectives. *Journal of European Industrial Training*, 34(5), 432-454.

Normann, R. (1977). *Management for growth*. Chichester: Wiley.

Oakland, J. S. (2014). *Total quality management and operational excellence*. Abingdon: Routledge.

Pardo, C. & Ruiz-Tagle, J. (2017). The dynamic role of specific experience in the selection of self-employment versus wage-employment. *Oxford Economic Papers*, 69(1), 189-212.

Pfeffer, J. (1994). *Competitive advantage through people unleashing the power of the work force*. United States: Harvard Business School Press.

Ployhart, R. E & Moliterno, T. P. (2011). Emergence of the human capital resource: A multilevel model. *Academy of Management Review*, 36(1), 127-150.

Rosander, A. C. (1985). *Applications of quality controls in the service industries*. United States: ASQC Quality Press.

Ross, J. E. & Perry, S. (1999). *Total quality management: Text cases and readings*. United States: St. Lucie Press.

Sandwith, P. (1993). A hierarchy of management training requirements: The competency domain model. *Public Personnel Management*, 22(1), 43-62.

Swarbrooke, J. & Horner, S. (2007). *Consumer behaviour in tourism*. Great Britain: Butterworth-Heinemann.

Tas, R. F. (1988). Teaching future managers. *Cornell Hotel and Restaurant Administration Quarterly*, 29(2), 41-43.

Thite, M. (2019). *e-HRM: Digital approaches directions & applications*. Abingdon: Routledge.

Touminen, P. & Kettunen, U. (2003). To fade or not to fade: That is the question in customer relationships too. *Managing Service Quality*, 13(2), 112-123.

Tsai, F. C., Goh, B. K., Huffman, L. & Wu, C. K. (2006). Competency assessment for entry-level lodging management trainees in Taiwan. The Chinese Economy, 39(6), 49-69.

United Nations. (2016). Provisional guidelines on standard international age classifications. Retrieved from http://unstats.un.org/unsd/publication/SeriesM/SeriesM_74e.pdf.

Williams, C. & Buswell, J. (2003). Service quality in leisure and tourism. Trowbridge: Cabi.

Whitelaw, B. (2005). Hospitality management education in Ireland: Meeting industry needs a competency-based approach. Proceedings of Tourism and Hospitality Research in Ireland: Exploring the Issues. Portrush, University of Ulster.

Yamane, T. (1967). Elementary sampling theory. United States: Prentice-Hall.

Zaccaro, S. J. & Klimoski, R. J. (2001). The nature of organizational leadership: an introduction. In S. J. Zaccaro & R. J. Klimoski (Eds.), The nature of organizational leadership: Understanding the performance imperatives confronting today's leaders. United States: Jossey-Bass.

EGE AKADEMİK BAKIŞ / *EGE ACADEMIC REVIEW*

Cilt 20 • Sayı 3 • Temmuz 2020
SS. 167 / 178
Doi: --
Başvuru Tarihi: 09.02.2020 • Kabul Tarihi: 17.06.2020

A Comparative Study on Consumption Functions: The Case of the European Union*

Mustafa BİLİK[1]
Recep KÖK[2]

ABSTRACT

The consumption function describes the relationship between consumption expenditures and income. As is well known, the distribution of macroeconomic data such as income and consumption is unequal. Accordingly, estimators derived from linear models may be inefficient. This study attempted to reach efficient estimators, using gamma distribution, within the limits of this study. The main purpose of this study is to estimate parameters of mainstream consumption functions using the panel-data of EU members and negotiating countries. Using data from the World Bank, the European Union Macroeconomic Database (AMECO), and the Bank of International Settlement (BIS), consumption functions were estimated by the Generalized Linear Model (GLM) approach. The reliability of the estimators was tested with the Generalized Moments Method (GMM). Furthermore, the study uses GLM, based on machine learning, to obtain robust estimators for overfitting. Findings of all three methods are compatible with each other and the "Permanent Income" hypothesis verified.

Keywords: Consumption Function, Marginal Propensity to Consume, Absolute Income Hypothesis, Life-cycle Hypothesis, Permanent Income Hypothesis.

JEL Codes: C12, C22, D12, E21.

1. INTRODUCTION

In many developed and developing economies, household consumption expenditures constitute the largest part of Gross Domestic Product. According to Keynes (1936), consumption is the sole purpose and objective of all economic activity. The main source of this doctrine is that current consumption expenditures are the most crucial component of aggregate demand and that the planned consumption expenditures are the main driving force of the other components.

Keynes divided the factors determining the consumption propensity into objective and subjective elements. The objective factors are prices, taxes, wealth, interest rates, income distribution and changes in the relationship between current income and income expectations (Keynes, 1936). These are the foundations of mainstream consumption theories (Pressman, 1997). For example, the phenomenon of wealth is the main source of Modigliani's (1963) 'life cycle' hypothesis, and interest rates and income expectations are the main sources of Friedman's (1957) "permanent income hypothesis". Unlike the Keynesian view, the principal determinant of consumption is not current income but the permanent or life-cycle income. Accordingly, consumers spend a certain share of their lifetime or permanent income. Even if there is a change in current income, this spreads over periods and the concept of "consumption smoothing" arises. Even in developed countries, while a certain share of the decision making units makes consumption decisions based on the current income, another determines consumption decisions based on the permanent income. These findings suggest that some economic decision-making units behave in compliance with the Keynesian approach in the short-run, while in the long run certain share of

* This study is based on the first chapter of the PhD disseration under the title "Analyzing the Relationship Between Income Distribution and Household Expenditures over Comperative Consumption Functions: The Case of the European Union"

[1] **mustafa.bilik@deu.edu.tr**
[2] **recep.kok@deu.edu.tr**

the consumption expenditures are explained by the permanent income hypothesis.

This study presents information on the theoretical basis of consumer behavior in the EU member states and the cluster of countries in the negotiation process. This process requires the estimation of consumption trends in the short and long term. At the same time, the study tests the liquidity constraints of consumers and the excess sensitivity of consumption expenditures to income (Flavin, 1981; Dornbusch, Fischer & Bossons, 1987) in the framework of the consumption function literature.

The global income and consumption inequality require that the average, standard deviation, skewness, and kurtosis criteria (moments) of the series should be taken into consideration in the estimation process. The Generalized Method of Moments (GMM) allows estimators based on these characteristics. Within this framework, GLM estimators was tested with the GMM method. This approach is to determine whether the coefficients are reliable. Finally, machine learning-based GLM findings are also included as the parameters of the permanent income hypothesis estimated under the assumption of adaptive expectations and are questionable in terms of predictive potential.

2. EMPIRICAL LITERATURE ON CONSUMPTION FUNCTIONS

There is inconsistency in the origin of the empirical studies on consumption between Keynesian consumption theory and the empirical findings of Kuznets (1946). In this section, applied studies concerning consumption theories are presented in Table 1 to Table 3. In macroeconomics, the consumption function literature was developed over linear models before the "spurious regression" phenomenon and the development of "unit root" and "co-integration" approaches. Therefore, the regression models established between the disposable income and consumption expenditures in these studies are controversial.

The limited extent of applied literature on the absolute income hypothesis are presented in Table 1. In addition to these studies, Kaldor (1955) analyzes household income into two parts as labour and profit income, within the framework of the Keynesian consumption function. The findings in the study support that mpc out of wage is lower than the mpc out of profit.

Table 2 presents the applied literature on the life cycle and permanent income hypotheses. The most important constraint on the empirical Life Cycle Hypothesis is the question of whether current data supports the fundamental hypothesis (Deaton, 2005).

The Life Cycle Hypothesis presumes that savings made in the working period will finance the retirement period. Therefore, "consumption smoothing" occurs in the life cycle. However, studies on the US and UK revealed that consumption expenditures fall relatively low during retirement (Banks *et al*., 1988; Hurd & Rohwedder, 2005). Additionally, the absence of a bequest motive -one of the fundamental assumptions of the Life Cycle hypothesis- also did not correspond with actual observations. In the basic sense, the fall in consumption expenditures during the retirement period is called the "retirement puzzle" (Kankaanranta, 2006). Smith (2004) presents findings that consumption of durable goods decreased during retirement, but the consumption of non-durables remained the same.

Table 1: Empirical Literature on the Absolute Income Hypothesis

Authors	Sample	Method	Findings
Davis (1959)	USA (1929-1940)	Linear Regression (OLS)	The consumption function is consistent with the Keynesian absolute income hypothesis.
Ferber (1966)	USA (1929-1940), (1947-1957), (1958-1968)	Linear Regression (OLS)	The absolute income hypothesis is valid. MPCs vary between periods.
Okçu (2008)	Turkey (1987-2007)	Cointegration Analysis	The absolute income hypothesis rejected. Mpc = 0.89, apc = 0.69, but no long-term cointegration was observed.
Carruth, Gibson, & Tsakalotos, (2010)	EU	OLS	Consumption functions are differentiating between countries.
Alimi, (2013)	Nigeria (1970-2011)	Time Series Analysis	For the short run, the absolute income hypothesis confirmed. (mpc = 0.49 - 0.79)
Aras (2014)	Turkey (1998-2010)	Linear Regression (OLS)	The absolute income hypothesis is accepted, and the emphasis placed on the phenomenon of lagging consumption. (Mpc=0.66.)
Ianole & Elena, (2015)	EU (2000-2013)	Panel data analysis	The absolute income hypothesis validated. (mpc = 0.58)

Source: Prepared by authors.

Table 2: Empirical Literature on Life Cycle and Permanent Income Hypothesis

Authors	Sample	Method	Findings
Slacalek (2004)	OECD Countries (1960-2000)	Cointegration Approach	There is long-term relation between income, wealth and consumption.
Slacalek (2009)	OECD Countries (1960-2000)	IV Approach	There is a wealth effect on consumption expenditures.
Hayashi (1982)	USA (1948-1978)	OLS and Tobit Regression	The permanent income hypothesis accepted for the durable goods but rejected for the non-durable goods.
Souleles (2002)	USA (1980-1991)	OLS	MPC is approximately 0.7 on tax returns.
Manitsaris (2006)	Euro Area (1980-2005)	Panel Data Analysis	The permanent income hypothesis is accepted. (MPC estimated between 0.7-0.85).
DeJuan, Seater, & Wirjanto (2006)	West Germany (1980-1986)	Time Series Analysis	The permanent income hypothesis is not accepted.
Jawadi & Sousa, (2015)	USA, UK and EURO Area (1947 Q1-2008 Q4)	Quantile Regression, Linear Models	Mpc was estimated to be approximately 0.7.
Alimi (2015)	Nigeria and South Africa	Time Series Analysis	In both countries, the permanent income hypothesis accepted.
Bilgili &Bağlıtaş, (2016)	Turkey (1998-2012)	Time Series Analysis	The absolute income hypothesis is accepted for Turkey (mpc = 0.7-0.8).
Altunç & Aydın, (2014)	D-8 Countries (1980-2010)	Cointegration Approach	Permanent Income Hypothesis accepted for D-8 countries.
Carroll,Slacalek,& Tokuoka, (2014)	15 Europe Country (2013)	Calibration Techniques	Wealth and wealth inequality effect both mpc and the distribution of mpc among households. MPC estimated between 0.2 and 0.6.

Source: Prepared by the authors.

Table 3: Empirical Literature on the Random Walk Hypothesis

Authors	Sample	Method	Findings
Flavin, (1981)	USA (1949-1979)	Maximum Likelihood Approach	Consumption expenditures are sensitive to current income. In the short run the mpc was estimated at = 0.35.
Hall & Mishkin, (1982)	USA (1969-1975)	Maximum Likelihood Approach	Total consumption expenditure (80%) largely corresponds to the random walk hypothesis. (Λ = 0.8)
Campbell & Mankiw, (1991)	USA (1948-1985)	Instrumental Variable Approach	Approximately 45% of consumers determine their spending decisions according to current income changes. (Λ = 0.8)
Souleles, (2002)	USA (1982)	OLS	The random walk hypothesis rejected. Liquidity constraints have an impact. The mpc is between 0.6 and 0.9.
Rao, (2005)	Australia and Fiji (1970-2005)	Instrumental Variable Approach	The ratio of Keynesian consumers in Australia is 0.3, while in Fiji it is 0.52.)
Bilgili, (2006)	Turkey (1987-2003)	VAR Approach	The random walk hypothesis rejected.
Alegre & Pou, (2008)	Spain (1986-1996)	GMM	The behaviour of full-time employed consumers conforms to the random walk hypothesis.
Sivri & Eryüzlü, (2010)	Turkey (1987-2007)	Cointegration Approach	In the sample of Turkey, the random walk hypothesis rejected.
Poterba, (2017)	USA (1959-1987)	OLS	The random walk hypothesis rejected. Mpc ranges between 0.12-0.24 out of tax returns.

Source: Prepared by the authors.

Table 3 reveals the main empirical studies of the random walk hypothesis. In the applied literature, "excess smoothing" and "excess sensitivity" concepts arise when the hypothesis is the subject of the test. These linked to whether the disposable income series is stationary. In addition to these studies, Deaton (1987) tests the random walk hypothesis with a distinct approach. Here, the variances of the dependent (ΔC) and the independent variables (ϵ) were compared. Accordingly, the variance of the error term is greater than the variance of the independent variable. These results show an important finding that the hypothesis is not confirmed. Findings of the empirical literature on the random walk hypothesis revealed that the excess sensitivity hypothesis is verified. Liquidity constraints and the myopia of consumers were presented as the possible cause of this outcome.

The applied literature on the consumption functions was presented in this section. In our study, based on the skewness of the income and consumption distribution, GLM based estimators were obtained and tested with techniques based on GMM and machine learning. In this framework, we presented our contribution to the applied literature.

3. DATASET AND THE METHOD

The data set and econometric methods used in estimating consumption functions in the European Union sample presented are in this part of the study. Here, the functions of mainstream consumption theories are comparatively analyzed in the applied perspective.

3.1. Definition and Source of the Data

In this study, data from thirty-three countries covering the period of 2000-2017 were employed. The definition and source of the variables are summarized in the table below.

The descriptive statistics of the variables are summarized in Table 5. Accordingly, Luxembourg possesses the highest per capita income (112 thousand USD) and Kosovo the lowest (1919 USD). Again, as expected, Luxembourg has the highest per capita expenditure and Kosovo the lowest. The real interest rate fluctuates between -12% and 25% in the period. The house price index (instrument for wealth) varied between 38 and 209 and the average of the period is 98.

Table 5: Descriptive Statistics

Variable	N	Mean	S.D	Min	Max
(C_{it})	582	14885.24	8738.134	2239.636	34493.09
(Y_{it})	594	28110.26	21544.09	1919.838	112000
(r_{it})	565	1.077	3.869	-12.507	25.21
(W_{it})	427	98.554	20.662	38.125	209.43

Source: Prepared by authors.

Table 4: Definition and Source of Variables

Variables	Definition	Source	Unit
Consumption Expenditure (C_{it})	Total Market Value of Goods and Services Purchased by Households (Per Capita).	World Development Indicators (World Bank)	USD
Income (Y_{it})	Gross Domestic Product Per Capita	World Development Indicators (World Bank)	USD
Real Interest Rate (r_{it})	Quarterly average interest rate (adjusted using gross domestic product deflator)	AMECO (EU Annual Macroeconomic Database)	Percentage (%)
Wealth (W_{it})	Housing Price Index (Instrument Variable)	BIS (Bank for International Settlement)	2010=100

Note: The data set of the study covers 200-2017 period. EU-28 and negotiating countries included[1].

[1] Malta excluded from the analysis due to lack of data. Negotiating Countries: Bosnia and Herzegovina, Kosovo, Macedonia, Serbia, Turkey. (Montenegro and Albania are not included in the analysis due to lack of data)

3.2. Methodology

The estimation process of the income-consumption relationship requires the use of a more general approach than the linear model for two main reasons. The first of these related to the distribution of the dependent variable. If the dependent variable has a distribution characteristic other than the normal distribution, the estimators may lose their unbiasedness properties. The second reason is that the economic relationship is mostly nonlinear.

The generalized linear model is represented as follows:

$$g(\mu_i) = g[E(y_i)] = x_i\beta \quad (2)$$

Where x_i refers to the explanatory variables and β refers to the regression coefficients. The components of the generalized linear model are expressed as follows (Nelder & Wedderburn, 1972):

1) Distribution of dependent variable: probability density function $(f(y: \theta, \phi))$ is in the exponential family with θ, ϕ parameters.

2) Systematic component $\eta: \eta = X\beta$,

3) Link function: $g: E(y) = \mu = g^{-1}(\eta)$

The link function relates the expected value of μ with the linear component η. In other words, the link function defines the relationship between independent and dependent variables. This may be any differentiable monotonic function. The literature provides a piece of preliminary information on the distribution under which the modeling process is conducted. Gamma distribution is regarded as one of the statistical distributions that have descriptive power on the income distribution (McDonald, (1984); Salem & Mount, (2006); McDonald & Jensen, (1979); Kloek & van Dijk, (1978), Bandourian, McDonald & Turley, (2002)). The main advantage of utilizing the gamma distribution is that it is defined only as positive values ((Thom, 1958); (Wilks, 1968)).

The probability density function of the gamma distribution is presented as follows (Minka, 2002):

$$p(x|a,b) = Ga(x;a,b) = \frac{x^{a-1}}{\Gamma(a)b^a}\exp(-\frac{x}{b})$$

$$\log p(D|a,b) = (a-1)\sum_{i=1}^{n} logx_i - nlog\Gamma(a) - nalogb - \frac{1}{b}\sum_i x_i \quad (3)$$

$$= n(a-1)\overline{logx} - nlog\Gamma(a) - nalogb - n\bar{x}/b$$

In this context, MLE estimators are the parameters that maximize the logarithmic likelihood function. This process (MLE) requires a full description of the model and determination of the probability distribution. The GMM model eliminates this disadvantage of MLE (Matyas, 1999). In economics, GMM is mainly used in dynamic panel data models ((Baltagi & Levin, (1986); (Holtz-Eakin, Newey, & Rosen, (1988); Arellano & Bond (1991); (Blundell, Bond, Devereux, & Schiantarelli, (1992); (Islam, (1995); (Ziliak, (1997); (Baltagi, (2005); (Balestra & Nerlove, (2006)). The dynamic panel data model is expressed as follows:

$$y_{it} = \delta y_{i,t-1} + x'_{it}\beta + u_{it} \quad (4)$$

Since the lag of the dependent variable is included among the independent variables, the assumption of strict externality is relaxed. Therefore, when *T* is constant and *N* goes to infinity, the dynamic model is applied because ordinary panel data models (fixed and random effects) cannot provide efficient estimators (Cameron & Trivedi, 2005). Additionally, the two main problems arising from the dynamic model are autocorrelation and heterogeneity in unit effects. The GMM process proposed by Arellano and Bond (1991) provides solutions to autocorrelation and heterogeneity problems.

In this study, the reliability of traditional GLM parameters are tested using GLM based on machine learning. Machine learning is a sub-branch of artificial intelligence consisting of modelling that makes inferences from existing data using mathematical and statistical methods and makes forecasts by these inferences (Akay, 2018). In traditional GLM, the objective function is presented as follows (Nykodym, Kraljevic, Wang, & Wong, 2019):

$$\max_{\beta} \; [GLM \log Likelihood] \quad (5)$$

The data set used in the estimation process is divided into two parts as training and test data by machine learning iteration. Therefore, when the model learns the signal (mathematical form) and noise (error term), the algorithm that works with the training data yields estimators that include the error term. This problem is referred to as "overfitting". To avoid this, the coefficients are reduced by adding a regularization penalty to the objective function:

$$\max_{\beta,\beta_1} \left[GLM \log Likelihood - \text{regularization penalty}\right] \quad (6)$$

The coefficient estimates are obtained by analyzing the following optimization process:

$$\max_{\beta,\beta_1} \sum_{i=1}^{N} \log f(y_i;\beta,\beta_1) - \lambda(\alpha\|\beta\|_1 + \tfrac{1}{2}(1-\alpha)\|\beta\|_2^2) \quad (7)$$

Regularization penalties is applied to reduce the variance of the prediction error. The two penalized regressions are Ridge and Lasso (Least Absolute Shrinkage and Selection Operator). The parameter represents the choice between these two approaches. In the equation, Ridge regression occurs if α=1 and LASSO if α=0. The degree of regularization is determined by parameter λ. For example, if λ=0, no regularization is applied.

The models are established to estimate the most appropriate consumption function of the European Union and negotiating countries are listed as follows:

$$\text{Model I: } \ln C_{it} = \mu + \beta \ln Y_{it} \quad (8)$$

$$\text{Model II: } \ln C_{it} = \mu + \beta_1 Y_{it} + \beta_2 \ln W_{it} \quad (9)$$

$$\text{Model III: } C_{it} = \mu + \beta_1 C_{i(t-1)} + \beta_2 Y_{it} + \beta_3 R_{it} \quad (10)$$

$$\text{Model IV: } C_{it} = \mu + \beta_1 C_{i(t-1)} + \beta_2 C_{i(t-2)} + \beta_3 C_{i(t-3)} + \beta_4 C_{i(t-4)} \quad (11)$$

Where C_{it} refers to per capita consumption, Y_{it} per capita income, w_{it} refers to wealth, and R_{it} refers to the real interest rate. Following the evaluation of both models, the interest rate and the lagged value of consumption are added to the model in the context of the permanent income hypothesis on "adaptive expectations" assumption. The mathematical transformations executed in this framework are presented as follows:

$$C = C^P + C^T \quad and \quad C_t^P = \alpha + \beta Y_t^P \quad (12)$$

Where C^P and Y_t^P represents the permanent consumption and the permanent income respectively. Since these are not directly observable, the following adjustment is made ((Gujarati, 2004); (Manitsaris, 2006)):

$$C_t - C_{t-1} = \theta(C_t^P - C_{t-1}) + \varepsilon_t, (0 < \theta \leq 1) \quad (13)$$

$$Y_t^P - Y_{t-1}^P = \varphi(Y_t - Y_{t-1}^P) + \varepsilon_t, (0 < \varphi \leq 1) \quad (14)$$

Where θ is the partial adaptation coefficient and φ is the adaptive expectation coefficient:

$$C_t = \alpha + \beta Y_t^P + C_t^T, \quad (15)$$

or,

$$C_t = \alpha + \beta Y_t^P + v_t, (v_t = \varepsilon_t + C_t) \quad (16)$$

Equation (11) is restated as follows:

$$Y_t^P = \frac{1}{\beta} C_t - \frac{\alpha}{\beta} - \frac{1}{\beta} v \quad (17)$$

$$Y_{t-1}^P = \frac{1}{\beta} C_{t-1} - \frac{\alpha}{\beta} - \frac{1}{\beta} v_{t-1} \quad (18)$$

Following Koutsoyiannis, (1979) and Alimi, (2015), we combine equations to convert them into a predictable format using observable values and to estimate long run mpc;

$$C_t = \alpha\omega + \beta\omega Y_t + (1-\omega)C_{t-1} + [v_t - (1-\omega)v_{t-1}] \quad (19)$$

$$mpc_{LR} = \frac{\Omega_1}{1-\Omega_2} \quad (20)$$

4. ANALYSIS

Concerning the objective of this study, it is expected that the estimators obtained under the normal distribution assumption will be biased if the distribution of economic data is non-normal. Table 6 presents coefficient estimates for traditional consumption functions under the gamma distribution.

According to the findings in Model 1, the reliability of the estimators of the Keynesian consumption function is not fit well in terms of theoretical expectations and statistical significance. The link test indicates that the model is not consistent in terms of statistical

distribution and functional form. The estimators of the Model 2 are economically valid (Mpc = 0.88 out of disposable income and 0.07 out of wealth). However, in the context of the link test, the model is rejected because the combination of statistical distribution and link function is not appropriate. Therefore, this model is not reliable in the context of long-term forecasting.

Among all four-model specifications, the most useful estimators for forecasting are obtained from the permanent income hypothesis (Model III). The consumption function estimated by Hall (1978), tested in the structure of Model IV. Although estimators of this model are significant, it does not eliminate the uncertainties about the coefficient of the lag of consumption in Model 3. In this context, Model 4 is significant but does not provide supportive evidence for the policy structure in terms of consumption expenditure. In summary, considering that the GLM approach, the main outcome of the four models is that the permanent income hypothesis appears robust.

All estimators in Model 3 are statistically significant. The short run mpc is 0.31. The adaptive expectation coefficient is 0.37 (1-0.63). Interpreted together from these two estimators, the long-term mpc is calculated as follows:

$$\frac{\Omega_1}{1-\Omega_2} = \frac{0.31}{(1-0.63)} = \frac{0.31}{0.37} = 0.83$$

To test the above controversial findings with stronger evidence, permanent income and random walk hypotheses are estimated using the GMM model. Absolute and life cycle income models are excluded from this process because of their static structures. The findings presented in Table 7 are quite consistent with the GLM model estimators.

Here, as in the GLM technique, although the distribution property of the independent variables is not taken into consideration, sample moments are applied to population moments. Based on the AR1 and AR2 statistics, there is no autocorrelation problem. In addition, the validity of the instrumental variables is tested by Sargan test. Accordingly, instrument variables are robust.

Table 6: Comparative Consumption Functions: GLM Findings

	(Model 1)	(Model 2)	(Model 3)	(Model 4)
Y_{it}	1.000***	0.881***	0.311***	
	(43.86)	(21.28)	(7.14)	
W_{it}		0.0769***		
		(4.45)		
C_{t-1}			0.632***	1.321***
			(15.79)	(18.02)
C_{t-2}				-0.619***
				(-5.01)
C_{t-3}				0.131
				(1.57)
C_{t-4}				0.0172
				(0.40)
R_{it}			-0.00363***	
			(-4.90)	
μ	-0.641**	0.290	0.384**	1.515***
	(-2.62)	(0.75)	(2.68)	(8.01)
Linktest ($\hat{y}$*)	0.00	0.00	0.26***	0.96***
AC	6.58	6.65	6.61	6.64

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: Permanent Income and Random Walk Hypothesis: System GMM Results

	(Model 3)	(Model 4)
Y_{it}	0.320***	
	(8.03)	
$C_{(t-1)}$	0.592***	1.614***
	(13.25)	(14.49)
$C_{(t-2)}$		-0.793***
		(-3.60)
$C_{(t-3)}$		0.211
		(1.04)
$C_{(t-4)}$		-0.0391
		(-0.42)
R_{it}	-0.003***	
	(-3.40)	
μ	0.65***	.
	(5.46)	
S	-	266.3
m1	-2.07*	-2.643
m2	-1.75***	-0.00144***

t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

According to the estimators in Table 7, the mpc=0,32 in the short run in the long run it is 0,78. In addition to these findings, the table presents the findings of the random walk hypothesis. These are very similar to those obtained from the GLM model. The model is statistically significant. At the same time, according to ar1 and ar2 statistics, the autocorrelation hypothesis is rejected. In addition, instrumental variables are statistically significant.

GLM and GMM estimators provide strong evidence of the validity of the permanent income hypothesis. Besides, the estimators obtained by the two methods are compatible. Economically, the coefficients obtained from both models reveal that many consumers behave under the permanent income hypothesis, that is if the increases in income are permanent, the expenditures and thus the total demand will increase. Short-run income shocks will have a relatively limited effect.

The estimator of the lagged consumption expenditures $C_{i(t-1)}$ is greater than expected, thus it maintains the potential for doubt in terms of long-term forecasting. Therefore, the estimators were tested using machine learning methods. The results are presented in the table below, Table 8.

The significance of the models was measured using several statistical indicators[2]. According to the statistical indicators obtained in both models, LASSO regression provides better estimators. The model indicates that short and long run marginal propensity to consume are 0.51 and 0.78 (0.513 / (1-0.34)) respectively.

Table 8: Permanent Income Hypothesis: GLM Results Based on Machine Learning

	LASSO	RİDGE
	Logc	Logc
$C_{i(t-1)}$	0.344*	0.292*
Y_{it}	0.513*	0.523*
R	-0.002*	-0.00*
_cons	1.04*	1.43*
MSE	0.01	0.024

Source: Obtained under the R software using the H2O package.

The estimators are tested by using cross-validation. In this process, separate model estimators were obtained by selecting different data for the test and training

[2]These are; mean square error ($MSE = \frac{1}{N}\sum_{i=1}^{N}(y - \widehat{y})^2$), mean absolute error ($MAE = \frac{1}{N}\sum_{i=1}^{N}|\varepsilon_i|$) and root mean square error ($RMSE = \sqrt{\frac{\sum_{i=1}^{N}(y-\widehat{y})^2}{N}}$).

parts at each stage. Then, the statistical indicators (RMSE, MSE, MAE, etc.) obtained at each stage were compared. Accordingly, changes in statistical indicators show whether the model parameters are consistent. At this stage, the findings of the four randomly selected subsets of cross validation are as follows:

Table 9: Cross-Validation Results

Indıcators	Mean	Std.D.
MSE	0.01	0.005
RMSE	0.1	0.009
MAE	0.067	0.005

Source: Obtained under the R software using the H2O package.

In summary, the estimators of all three approaches used in the modelling stage (GLM, GMM and Machine Learning) are comparable. In the long run, the marginal propensity to consume (mpc) is estimated to be 0.83 in the traditional GLM approach, 0.86 in the GMM approach and 0.78 in the Machine Learning approach. In addition, the estimators of the real interest rate are very close to each other. This indicates that the estimators are reliable. At the same time, there is strong evidence for the validity of the permanent income hypothesis in the sample of the member states of the European Union and the countries in the negotiation process.

5. CONCLUSION

In this paper, coefficient estimates of traditional consumption functions were analyzed individually. Consequently, it is revealed that estimators obtained from the Keynesian consumption function are not strong. Besides, estimators of the life cycle hypothesis, though economically significant, are not statistically efficient. GLM estimators of the permanent income hypothesis are significant. However, the estimator of the one-period lag of consumption casts doubt on the ability to make forecasts and present policy proposals. In this context, within the framework of comparative model findings, the main conclusion we draw from all four models is that estimates of the permanent income hypotheses are the most efficient.

To test the reliability of GLM findings, permanent income, and random walk hypotheses were estimated by the GMM method. The fact that the GLM and GMM estimates are highly compatible with each other presents strong evidence of the validity of the permanent income hypothesis. For the machine learning-based GLM technique, the marginal propensity of consumption was estimated at 0.51 and 0.78 in the short and long-run respectively. The coefficients from all three approaches reveal that many consumers behave under the permanent income hypothesis. Accordingly, consumption expenditures will increase if the increase in income is perceived as permanent. As a result, the composition of developed countries in the European Union sample, in general, makes the results of the study more reliable. In future studies, it will be useful to study consumption behaviors within the theoretical framework using microdata in developed and developing countries in terms of monetary and fiscal policy applications.

References

Alegre, J., & Pou, L. (2008). Further evidence of excess sensitivity of consumption? Nonseparability among goods and heterogeneity across households. *Applied Economics*, *40*(7), 931–948. https://doi.org/10.1080/00036840600749896

Alimi, R. S. (2013). Keynes' absolute income hypothesis and Kuznets paradox. *Munich Personal RePEc Archive*, (49310), 1–15. Retrieved from https://mpra.ub.uni-muenchen.de/49310/

Alimi, S.R. (2015), Estimating Consumption Function under Permanent Income Hypothesis: A Comparison between Nigeria and South Africa. *International Journal of Academic Research in Business and Social Sciences*, 5(11), 285-298.

Altunç, Ö. F., & Aydın, C. (2014). An Estimation of the Consumption Function Under the Permanent Income Hypothesis: The Case of D-8 Countries. *Journal of Economic Cooperation and Development*, *35*(3), 29–41.

Anderson, T. W., & Hsiao, C. (1981). Estimation of dynamic models with error components. *Journal of the American statistical Association*, *76*(375), 598-606.

Arellano, M., & Bond, S. (1991). Some Tests of Specification for Panel Carlo Application to Data: *Review of Economic Studies*, *58*, 277–297.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, *68*(1), 29–51.

Balestra, P., & Nerlove, M. (2006). Pooling Cross Section and Time Series Data in the Estimation of a Dynamic Model: The Demand for Natural Gas. *Econometrica*. https://doi.org/10.2307/1909771

Baltagi, B. (2008). *Econometric analysis of panel data*. John Wiley & Sons.

Baltagi, Badi H., & Levin, D. (1986). Estimating Dynamic Demand for Cigarettes Using Panel Data: The Effects of Bootlegging, Taxation and Advertising Reconsidered. *The Review of Economics and Statistics*. https://doi.org/10.2307/1924938

Bilgili, F. (2006). Random walk, excess smoothness or excess sensitivity? Evidence from literature and an application for Turkish economy. *In: International Conference on Economics. Consumption in Turkey, Ankara, Turkey, September 12, 2006.*

Bilgili, F., & Bağlıtaş, H. H. (2016). Testing the permanent income and random walk hypotheses for Turkey. *International Journal of Economics and Financial Issues*, *6*(4), 1371–1378.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, *87*(1), 115–143. https://doi.org/10.1016/S0304-4076(98)00009-8

Blundell, R., Bond, S., Devereux, M., & Schiantarelli, F. (1992). Investment and Tobin's Q: Evidence from company panel data. *Journal of econometrics*, *51*(1-2), 233-257.

Bandourian, R., McDonald, J., & Turley, R. S. (2002). A comparison of parametric models of income distribution across countries and over time.

Bunting, D. (1989). The consumption function "paradox". *Journal of Post Keynesian Economics*, *11*(3), 347-359.

Cameron, C. A., & Trivedi, P. A. (2005). *Microeconometrics Methods and Applications*. New York: Cambridge University Press.

Campbell, J. Y., & Mankiw, G. N. (1990). Permanent Income, Current Income, and Consumption. *Journal of Business & Economic Statistics*, *8*(3), 265–280.

Campbell, J. Y., & Mankiw, N. G. (1991). The response of consumption to income: a cross-country investigation. *European economic review*, *35*(4), 723-756.

Carroll, D. C., Slacalek, J., & Tokuoka, K. (2014). The Distribution of Wealth and the MPC : Implications of New European Data. *The American Economic Review*, *104*(5), 107–111.

Carruth, A., Gibson, H., & Tsakalotos, E. (2010). Are aggregate consumption relationships similar across the European Union? *Regional Studies*, *33*(1), 17–26. https://doi.org/10.1080/00343409950118887

Coskun, Y., Sencer Atasoy, B., Morri, G., & Alp, E. (2018). Wealth effects on household final consumption: Stock and housing market channels. *International Journal of Financial Studies*, *6*(2), 57.

Davis, J. A. (1959). A formal interpretation of the theory of relative deprivation. *Sociometry*, *22*(4), 280-296.

Deaton, A. (1987). Estimation of own-and cross-price elasticities from household survey data. *Journal of Econometrics*, *36*(1-2), 7-30.

Deaton, A. (2005). Franco Modigliani and the Life Cycle Theory of Consumption. Research Program in Development Studies and Center for Health and Wellbeing. *Princeton University*.

DeJuan, J. P., Seater, J. J., & Wirjanto, T. S. (2006). Testing the permanent-income hypothesis: New evidence

from West-German states (Länder). *Empirical Economics*, *31*(3), 613–629.

Dornbusch, R., Fischer, S., & Bossons, J. D. (Eds.). (1987). *Macroeconomics and finance: essays in honor of Franco Modigliani*. Mit Press.

Emilio Fernandez-Corugedo. (2004). Consumption Theory. In *Handbooks in Central Banking*.

Flavin, M. A. (1981). The Adjustment of Consumption to Changing Expectations About Future Income. *Journal of Political Economy*, *89*(5), 974–1009. https://doi.org/10.1086/261016.

Ferber, R. (1966). Research on household behaviour. In *Surveys of Economic Theory* (pp. 114-154). Palgrave Macmillan, London.

Gujarati, D. N. (2004). Basic Econometrics. Fourth Edition. McGraw-Hill, New York. USA. In *Science*. https://doi.org/10.1126/science.1186874

Hall, R. E., & Mishkin, F. S. (1982). The Sensitivity of Consumption to Transitory Income: Estimates from Panel Data on Households. *Econometrica*, *50*(2), 461. https://doi.org/10.2307/1912638

Hayashi, F. (1982). The Permanent Income Hypothesis : Estimation and Testing by Instrumental Variables. *Journal of Political Economy*, *90*(5), 895–916.

Holtz-Eakin, D., Newey, W., & Rosen, H. S. (1988). Estimating vector autoregressions with panel data. *Econometrica: Journal of the Econometric Society*, 1371-1395.

Hurd, M. D., & Rohwedder, S. (2005). Changes in consumption and activities in retirement. *Michigan Retirement Research Center Research Paper No. WP*, *96*.

Ianole, R., & Druıcă, E. (2015). Testing the Keynesian consumption hypothesis on European panel data. *Revista Romana de Economie*, *40*(1).

Islam, N. (1995). Growth empirics: a panel data approach. *The quarterly journal of economics*, *110*(4), 1127-1170.

Jawadi, F., & Sousa, R. M. (2015). The Relationship between Consumption and Wealth: A Quantile Regression Approach. *Revue d'économie Politique*, *124*(4), 639. https://doi.org/10.3917/redp.244.0639.

Kankaanranta, P. (2006). *Consumption Over the Life Cycle: Theory and Empirical Regularities* (No. 118).

Kaldor, N. (1955). Alternative Theories of Distribution. *The Review of Economic Studies*, *23*(2), 83. https://doi.org/10.2307/2296292

Keynes, J. M. (1936a). The general theory of employment, interest, and money. In *The General Theory of Employment, Interest, and Money*. https://doi.org/10.1007/978-3-319-70344-2

Kloek, T., & van Dijk, H. K. (1978). Efficient estimation of income distribution parameters. *Journal of Econometrics*, *8*(1), 61–74. https://doi.org/10.1016/0304-4076(78)90090-8

Koutsoyiannis, A. (1979). *Modern microeconomics*. (Second). New York: Macmillan.

Kuznets, S. (1946). *National product since 1869*. National Bureau of Economic Research, New York.

Manitsaris, A., 2006 "Estimating the European Union Consumption Function under the Permanent Income Hypothesis."International Research Journal of Finance and Economics, 2(3):1450-288

Mátyás, L., Gourieroux, C., & Phillips, P. C. (Eds.). (1999). *Generalized method of moments estimation* (Vol. 5). Cambridge University Press.

McDonald, J. B. (1984). Some Generalized Functions for the Size Distribution of Income. *The Econometric Society Stable*, *52*(3), 647–663.

McDonald, J. B., & Jensen, B. C. (1979). An analysis of some properties of alternative measures of income inequality based on the gamma distribution function. *Journal of the American Statistical Association*, *74*(368), 856-860.

Minka, T. P. (2002). Estimating a Gamma Distribution. *Microsoft Research*, *1*(3), 3–5.

Modigliani, F., & Ando, A. (1963). The " Life Cycle " Hypothesis of Saving : Aggregate Implications and Tests. *The American Economic Review*, *53*(1), 55–84.

Modigliani, F., & Brumberg, R. (1954). Utility analysis and the consumption function: An interpretation of cross-section data. *Franco Modigliani*, *1*(1), 388-436.

Nelder, J. A., & Wedderburn, R. W. (1972). Generalized linear models. *Journal of the Royal Statistical Society: Series A (General)*, *135*(3), 370-384.

Nykodym, T., Kraljevic, T., Wang, A., & Wong, W. (2019). *Generalized Linear Modeling with H2O* (Sixth Edit; A. Bartz, ed.). Retrieved from http://docs.h2o.ai/h2o/latest-stable/h2o-docs/booklets/GLMBooklet.pdf.

Okcu, A. B. (2008). Türkiye İçin Gelir-Tüketim İlişkisinin Eşbütünleşme Analizi İle İncelenmesi. *Çukurova Üniversitesi*.

Poterba, J. M. (1988). Are consumers forward looking? Evidence from fiscal experiments. *The American Economic Review*, *78*(2), 413-418.

Pressman, S. (1997). Consumption, income distribution and taxation: Keynes' fiscal policy. *Journal of Income*

Distribution, *7*(1), 29–44. https://doi.org/10.1016/s0926-6437(97)80003-0

Rao, B. B. (2005). Testing Hall's permanent income hypothesis for a developing country: the case of Fiji. *Applied Economics Letters*, *12*(4), 245-248.

Salem, A. B., & Mount, T. D. (1974). A convenient descriptive model of income distribution: the gamma density. *Econometrica: journal of the Econometric Society*, 1115-1127.

Sargan, J. D. (1958). The estimation of economic relationships using instrumental variables. *Econometrica: Journal of the Econometric Society*, 393-415.

Sivri, U., & Eryüzlü, H. (2010). Rasyonel Beklentiler-Yaşam Boyu Sürekli Gelir Hipotezinin Testi. *Ekonometri ve İstatistik E-Dergisi*, *1*(11), 90–99.

Slacalek, J. (2004). International Evidence on Cointegration between Consumption, Income, and Wealth. *Unpublished manuscript. Available at http://www. slacalek. com/research. html*.

Slacalek, J. (2009). What drives personal consumption? the role of housing and financial wealth. *B.E. Journal of Macroeconomics*, *9*(1). https://doi.org/10.2202/1935-1690.1555.

Smith, S. (2004). *Can the retirement consumption puzzle be resolved? Evidence from UK panel data* (No. 04/07). IFS Working Papers.

Souleles, N. S. (2002). Consumer response to the Reagan tax cuts. *Journal of Public Economics*, *85*(1), 99–120. https://doi.org/10.1016/S0047-2727(01)00113-X

Thom, H. C. S. (1958). A note on the gamma distribution. *Monthly Weather Review*, *86*(3), 117–122. https://doi.org/10.1175/1520-0493(1958)086<0117:anotgd>2.0.co;2

Wilks, D. S. (1968). Statistical methods in the atmospheric sciences: an introduction. In *International Geophysics Series*.

Ziliak, J. P. (1997). Efficient estimation with panel data when instruments are predetermined: an empirical comparison of moment-condition estimators. *Journal of Business & Economic Statistics*, *15*(4), 419-431.

EGE AKADEMİK BAKIŞ / *EGE ACADEMIC REVIEW*

Cilt 20 • Sayı 3 • Temmuz 2020
SS. 179 / 192
Doi: --
Başvuru Tarihi: 25.07.2019 • Kabul Tarihi: 04.07.2020

The Relationship between Employee Advocacy and Psychological Well-Being: Mediating Role of Perceived Insider Status and Moderating Role of Power Distance

Daimi KOÇAK[1] *https://orcid.org/0000-0001-9099-2055*

ABSTRACT

The purpose of this study is to examine the relationships between employee advocacy and psychological well-being (PWB), and to test the mediating effect of perceived insider status (PIS), and moderating effect of power distance on that relationship within the framework of social exchange theory. Data were collected using a questionnaire survey method from 293 full-time employees working in an organization operating in the aviation industry in Turkey. The data obtained were analyzed according to the moderated mediation (alternatively known as condational indirect effect) framework improved by Preacher et al. (2007). Research findings are demonstrated that the relationship between employee advocacy and PWB is more complex than was prior researchers' findings. As a result of analyzes, it was determined that PIS has a partial mediation effect on the relationship between employee advocacy and PWB. Also the results supported the moderated mediation and showed that the positive indirect effect of employee advocacy on PWB through PIS was stronger for employees with low power distance perception. The theoretical and practical implications of findings are discussed.

Keywords: Employee advocacy, perceived insider status, power distance, psychological well-being, aviation industry.

Jel Codes: D23, M12, M14, I31

1. INTRODUCTION

Since service industry employees are in direct and close contact with customers, their attitudes and behaviors affect customer perception and satisfaction (Chan and Wan, 2012). For this reason, companies operating in the service sector must employ appropriate people to manage and motivate them successfully (Yeh, 2014). The concept of PWB was described as positive emotions more dominant than negative ones by Bradburn (1969). In later years, Bradburn's work was criticized for focusing too much on positive and negative emotions. PWB was conceptualized as a combination of positive affective state included both the degree of individuals' positive emotions and meaningfulness of their lives, and generally expressed as happiness (hedonic perspective) and full self-actualization of an individual (eudaimonic perspective) (Winfield et al., 2012). In this research, well-being is handled according to the approach of the eudaimonic perspective developed by Ryff (1989).

Thanks to employees with a high level of PWB, organizations achieve their goals more easily. Similarly, as the working life is an important part of most people, it has a great impact on their well-being (Zheng et al., 2015). To help employees feelings themselves psychologically better, organizations must be support employees socially and economically (Kim, 2008). With that in mind, evaluation according to social exchange (Blau, 1964) and incentive-contribution theories (March and Simon, 1958), it can be interpreted as that an employee will be more motivated for the contribution to the organizational outputs in return for some benefits (promotion, participative management, etc.) provided by the organization. For example, studies (Wright and Cropanzano, 2000, 2004; Daniels and Harris, 2000),

[1] **Assistant Professor, Erzincan Binali Yıldırım University, Ali Cavit Çelebioğlu Civil Aviation School, Erzincan, Turkey, dkocak@erzincan.edu.tr**

investigating the relationship between PWB and employee performances found that increasing the well-being of the employees affects their performance. PWB will enhance employees' performances which will pave the way to the achievement of organizational goals (Wright and Cropanzano, 2004).

The aviation sector is one of the sensitive sectors that are affected by many factors (e.g. government policy decisions, economic crises, customer expectations). Customers are in close contact with ground handling employees from the moment they arrive at the airport until they leave the airport. Therefore, the quality of the service they provide has a significant impact on customer satisfaction (Yeh, 2014). Ground handling employees must be able to immediately resolve customers' problems in order to develop and maintain the company's overall image of providing high-quality service (Türeli et al., 2019). The attitudes and behaviors of ground handling workers significantly affect the perception of service of customers (Ban and Kim, 2019). Therefore, ground handling companies must develop methods to effectively manage their employees and ensure that their attitudes and behaviors are conducive to providing quality service. The aviation industry is an industry where employees' PWBs are significant (Rosskam et al., 2009). Meeting the increasing customer expectations depends on the psychological well-being of the ground handling employees. For this reason, it was considered that it would be appropriate to implement the study on service industry employees whose PWBs could have a direct effect on the activities carried out and customer satisfaction. In addition, the power distance variable included in the model as a moderator variable is an important determinant in the aviation industry, where teamwork and communication are extremely important (Helmreich ve Merritt, 2001). Employee advocacy is related to the transparency of an airline company's employment offers, and their willingness to act in the best interests of their employees. Yeh (2014) found that employee advocacy is an important determinant of job satisfaction and loyalty of employees in the aviation industry. Therefore, in this study, the effect of the employee advocacy, perceived insider status, and power distance on the psychological well-being of the ground service employees was investigated.

This article contributes to the literature in two ways. First, as a result of the literature research, no study was found to investigate the relationship between employee advocacy and PWB. The present study is significant as it examined the influences of informal organizational support (employee advocacy in this work) and employees' organizational identification (PIS in this work) on their PWBs in the context of organizational culture (power distance in this work). In this research, the direct effect of employee advocacy on employees' PWBs and its indirect effect through PIS were investigated. Also, the moderating effect of power distance, one of Hofstede's (1980) cultural dimensions, on this interaction was examined. Second, the findings of this study contribute to future studies' better understanding of outcomes of employee advocacy. Having reviewed the concerning literature, I realized that very few studies have investigated the outcomes of employee advocacy (e.g., Yeh, 2014; Akgunduz and Sanlı, 2017). This study aims to explain the importance of employee advocacy and PIS on PWB according to the level of power distance. For this purpose in this study, firstly, employee advocacy, PIS, power distance, and PWB concepts were handled in the theoretical framework. Then, the interactions of these scales with each other were statistically analyzed, and the theoretical and practical effects of the obtained data were discussed, and suggestions were made to managers and future studies.

2. THEORETICAL FRAMEWORK AND HYPOTHESES

2.1. Employee Advocacy

The relationship between employees and employers is always pointed out as a mutual exchange relationship (Homans, 1961). This relationship usually includes economic (material objects such as money) and social elements (intangible objects such as mutual trust and courtesy). While the expectations for economic exchange relationships are clearly defined by informal agreements (Cropanzano and Mitchell, 2005), the reciprocal expectations of the two parties are not clearly stated in social exchange (Emerson, 1976). For this reason, it is of utmost importance that both parties trust each other in the social exchange relationship. Social exchange is a process in which two or more people are mutually dependent to each other (Blau, 1964). The foundation of social exchange theory is based on the reciprocal trust and expectation of the parties in labor relations (Cropanzano and Mitchell, 2005). One of these expectations for an employee is "employee advocacy" (Yeh, 2014). Employee advocacy is defined as an organization considering complaints of the employees, protecting employees from discriminatory work practices and sexual harassment, being fair in rewarding, (Kim, 2009) transparency of

organizational policy and tendency to best fulfill the interests of employees (Akgunduz and Sanlı, 2017). Organizations ensure that employees have confidence in their work thanks to the practices contrary to the standard competitive conditions while appropriate for the employees' interests. Employee advocacy refers the transparency of an organization's employement policy, and concerns the willingness of the organization to act for the benefit of its employees (Yeh, 2014).

Employee advocacy is an important determinant that shapes the attitudes and behaviors of employees, especially in organizations in the service sector where human relations are at the forefront. There is not a lot of work in the literature about employee advocacy, which has been attracted by researchers in recent years (e.g. Yeh, 2014; Akgunduz and Sanlı, 2016; Dalgıc et al., 2016). Prior research indicated that employee advocacy has positive effect on job satisfaction and organizational commitment (Yet, 2014), and negative effect on role conflict (Dalgıc et al., 2016) and turnover intention (Aykan and Akgul, 2018).

2.2. Employee Advocacy and Psychological Well-Being

Employee advocacy concerns an employee's perception of the extent to which an organization values their contributions, and cares about their well-being (Yeh, 2014). The concept of PWB, first described by Bradburn (1969), was explained according to positive and negative psychological states. If a person's positive feelings are more than his/her negative feelings, he/she will perceive life better and vice versa (Diener, 2010). PWB was expressed as "a person's sense of self-acceptance, having positive relations with other individuals he/she interacts with, being independent in determining his/her future, being aware of his/her strengths and weaknesses, finding his/her life meaningful and giving importance to his/her personal growth" (Ryff, 1989; Ryff and Keyes, 1995). While early studies conducted on well-being reflect the hedonic approach (subjective well-being) focusing on feeling good, happy, being satisfied with life; the studies carried out after the 2000s deal with a eudaimonic approach concentrating on people's psychological functioning and self-actualization (Ryff, 1989). Social exchange theory emphasizes that mutual trust is of utmost importance, employees who perceive their contribution to the organization is appreciated, develop positive feelings towards their work and organizations (Akgunduz and Sanlı, 2017). One way to support and improve employees' well-being is to implement transparent policies that strengthen the employment relationship (Yeh, 2014). Without employee advocay, employees may be undesirable, worried about the future of their employment, and may suspect management practices or decisions taken by those in authority. The PWB of the employees in organizations, where organizational policies are determined transparently and happiness of employees have cared, is at a high level (Ni and Wang, 2015; Caesens et al., 2016). Based on these informations, the following hypothesis has been developed:

Hypothesis 1(H1): Employee advocacy will affect psychological well-being positively.

2.3. Employee Advocacy and PIS

One of the important perceptions as a result of the employee-employer relationship is PIS. PIS is defined as the extent to which an employee perceives him or herself as an insider within a particular organization. Employees with a high level of PIS perceive themselves as a part of their organization and obtain diverse awards and incentives compared to those with a low level of PIS (Stamper and Masterson, 2002). According to social exchange theory, organizations reward employees with greater contribution to the organization than those with lower levels (Blau, 1964). Similarly, according to the incentive-contribution theory (March and Simon, 1958), employees receiving more incentives are obliged to contribute more. As this incentive-contribution cycle continues, differences arise in the evaluation of employees. This situation causes some employees to perceive themselves as more valuable for the organization than others (Raub, 2016). Factors such as supervisor support, delegation, participation in decisions and leader-member exchange relationship affect employees' PIS positively (Dai and Chen, 2015). Stamper and Masterson (2002) indicated that the benefits of the organization to the employees play an important role in the formation of the PIS. Therefore, one may infer that employee advocacy would significantly relate to PIS. If an employee gains some benefits (e.g., promotion, career development, information sharing, and training opportunity) as a result of his/her contributions to the organization, his/her PIS will increase (Stamper and Masterson, 2002). As a consequence, it is expected that employe advocacy perceptions of grond handling employees affect their PIS positively. Thus, when these explanations are taken into account, Hypothesis 2 has been put forward:

Hypothesis 2(H2): Employee advocacy will affect perceived insider status positively.

2.4. PIS and PWB

Researchers have been discussing the growing relationship between employees and organizations for many years. This relationship can be conceptualized by the changes taking place between employees and organizations. According to social exchange theory, PIS is related to the mutual transfer of intangible expectations of employees from their managers or organizations (Horng et al., 2016). PIS levels may vary depending on the quality of the exchange relationship between organizations and employees. For instance, if organization provides training for employee and offers opportunities for his/her promotion, employee contributes to organizational outputs more (Buonocore et al., 2009; Stamper and Masterson, 2002). Similarly, leader-member exchange (LMX) theory argues that there is a two-way relationship between a leader and his/her follower(s) and that the leader allocates more resources (money, information, etc.) to employees (in-group) providing high contribution to the organization than those (out-group) with low contribution (Graen and Uhl-Bien, 1995).) If employees feel that they have a satisfactory exchange relationship with their organizations, their well-being will increase (Eisenberger et al., 2001). Moreover, Volmer et al., (2011) revealed that employees having high-quality relationships with their leaders (internal group) have a higher level of well-being than employees having low-quality relationships with their leaders (external group). Based on the reciprocity principle of the social exchange theory, when the employees perceive high level insider status, they feel better psychologically (Dai and Chen, 2015). Therefore, it can be asserted that there may be a positive relationship between PIS and PWB. From this analysis, I propose the following hypothesis:

Hypothesis 3(H3): Perceived insider status will affect psychological well-being positively.

2.5. The Mediating Role of PIS

Insider-outsider (Lindbeck and Snower, 2001), incentive-contribution (March and Simon, 1958) and LMX (Graen and Uhl-Bien, 1995) theories argue that workers making an extra contribution to the organization (insider) have more privileges (incentive, promotion, etc.) than those making a low contribution (outsider). The main focus of these theories is the more valuable employee's contribution to the organization, the more likely to benefit from organizational resources. According to March and Simon (1958), organizations reward employees as much as their contribution to outputs. These awards may be tangible (e.g. money) or intangible (e.g. trust). Employee advocacy is expressed as an intangible award, which increases the employee's PIS and PWB. According to Ryff and Keyes (1995), PWB has a multidimensional structure (e.g., autonomy, self-acceptance). Therefore there may be many factors that affect well-being at the same time. In this direction, I supposed that employee advocacy can positively contribute to psychological well-being by increasing perceived insider status.

Hypothesis 1 predicts a positive relationship between employee advocay and PWB, Hypothesis 2 predicts positive relationship between employee advocacy and PIS, and Hypothesis 3 predicts a positive relationship between PIS and PWB. Together, these hypotheses specify a model in which employee advocacy indirectly enhance PWB by contributing to PIS. In this study, I suggest that PIS mediate the employee advocacy-PWB relationship. In light of theoretical explanations, Hypothesis 4 was formed as follows:

Hypothesis 4(H4): PIS will mediate the relationship between employee advocacy and PWB.

2.6. The Moderating Role of Power Distance

The issue that increasing employees' PIS would have a positive impact on their PWBs was examined in terms of some theories (e.g. social exchange theory, LMX theory). However, there are several individuals (personality traits, experience, age, gender, etc.) and organizational (organizational structure, culture, activity area, etc.) factors that may affect this interaction (positive or negative). The concept of power distance was first defined by Hofstede (1980) as a dimension of organizational culture in consequence of the survey applied to a total of 116,000 IBM employees in more than 50 countries. Hofstede (1984) believed, "power distance is the fact that less powerful members of groups, organizations, and countries accept that power is distributed unequally". In organizations with high power distance, employees obey their supervisors, trying not to interfere, and accept their orders without questioning them. In these organizations; the difference between superior and subordinate is significantly high (Yayla-Kullu et al., 2015); participation of subordinates on the decision-making process is low; the difference among wages is high; the control mechanism is solid, and there is a centralized organizational structure (Bergiel et al., 2012). But in organizations with low power distances, employees have the right to constructively criticize their superiors. In organizations with such

culture, employees often take part in decision-making process; they believe that compensation is fair; all employees are rewarded fairly; control mechanism is not solid and there is a decentralized organizational structure (Hofstede, 1984). It is important to understand power distance in organizations because all relations in organizations are power-based, and power distance affects many organizational processes and outputs directly or indirectly (Daniels and Greguras, 2014). In this study, the moderating effect of power distance to this interaction was investigated. Power distance was used as a moderating variable in many studies (e.g., Zhang and Begley, 2010; Rafei, 2013; Purwanto, 2018; Thomas, 2015; Gul et al., 2018). In general, these studies showed that in organizations with high power distance, employees' loyalty to the organization (Rafei, 2013), their job satisfaction (Purwanto, 2018; Rafei, 2013), and empowerment (Zhang and Begley, 2010) were less than in organizations with low power distance. Employees' attitudes and behaviors vary from culture to culture according to cultural values (Gul et al., 2018). In low-power organizations, employees are more likely to participate in decisions than in high-power organizations (Zhang and Begley, 2010), and have higher autonomy (Thomas, 2015) than in organizations with high power distances. Steel et al. (2018) found that in societies with low power distances, the subjective well-being of individuals is higher than that of individuals with high power distances. In organizations with high power distance organizational policies are not transparency (Giapponi and Scheraga, 2007), and the PIS of employees is low (Zheng et al., 2019). In line with these explanations, hypotheses 5 and 6 were developed:

Hypothesis 5(H5): Power distance will moderate the relationship between PIS and psychological well-being, such that the positive relationship between perceived insider status and psychological well-being will be stronger when power distance is low rather than high.

Hypothesis 6(H6): Power distance will moderate the positive and indirect effect of employee advocacy on psychological well-being through PIS, such that this indirect effect will be stronger when power distance is low rather than high.

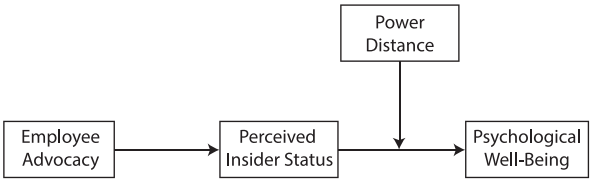


Figure 1: Hypothesized Model

3. METHOD

3.1. Participants

In this study, data were collected from the 293 out of 500 full-time employees of a ground handling company operating in the aviation industry in Turkey. The scales used in the research were previously adapted to Turkish by the researchers. For this reason, Turkish versions of the research scales were used in this study. The questionnaires were sent to the participants via post, and of 500 questionnaires 326 (65%) were returned. According to Babbie (2001) a response rate of 65% is good. 33 out of 326 surveys returned were incomplete and inaccurate and so not put into the analysis, and the remaining 293 were added to the analysis. Considering that the related aviation company has a total of 500 full-time employees, it can be statistically said that the sample can represent the study population (https://www.surveysystem.com). The majority of participants were men (68 percent), 45 percent were between the ages of 26-35 years, 64 percent reported educational levels as bachelor's degrees, and their average job tenure was 5.56 years.

3.2. Measures

Employee advocacy scale. The employee advocacy scale includes a seven-item scale improved by Yeh (2014). The Turkish adaptation of scale was done by Akgunduz and Sanlı (2016). Sample items included "my company attempts to improve employee satisfaction" and so on (α=0.95).

Perceived insider status. I used Stamper and Masterson's (2002) six-item measures of PIS. The Turkish adaptation of scale was done by Ozdevecioglu and Balci (2011). One of the items on the scale is "my work organization makes me believe that I am included in it" (α=0.94).

Power distance. Power distance was tested with an adapted version of Dorfman and Howell's (1988) of the five-item organizational culture scale. The scale is adapted to Turkish by Akyol (2009). Sample items included "a supervisor use of authority and power is often necessary to assure that work is done efficiently" and so on (α=0.73).

Psychological well-being. Lastly, for measuring participants' PWB levels, the PWB scale with eight-item developed by Diener et al. (2010) was used. The Turkish adaptation of scale was done by Telef (2013). One of the samples is "I lead a purposeful and meaningful life"

(α=0.91). For all measures seven-point Likert-type scale (1="strongly agree"; 7="strongly disagree") were used.

I used SPSS 22.0 program to test reliability and intercorrelations of scales and used AMOS for testing the validity of scales. For testing the research hypotheses, SPSS Macro developed by Preacher and Hayes (2004) was used.

4. RESULTS

4.1. Confirmatory Factor Analysis

Before testing the research hypothesis, the fit indexes of scales were tested using confirmatory factor analysis (CFA). I calculated six appropriate indices to determine the suitability of the model with the data. It is required to be examined the results of CFA and the model through fit indexes (Schreiber et al., 2006). There are many types of fit indexes used in researches. In this study, "degrees of freedom (x^2/df)", "root mean square error of approximation (RMSEA)", "comparative fit index (CFI)", "goodness of fit index (GFI)", "non-normed fit index (NNFI)" and "standardized root mean residual (SRMR)" goodness fit indexes were used (Schreiber et al., 2006). The goodness fit indexes for each model found as a result of the analysis are given in Table 1.

Table 1: Fit Indexes of Scales

	χ2/df	RMSEA	CFI	GFI	NNFI	SRMR
EA	2.468	0.065	0.989	0.967	0.982	0.027
PIS	2.335	0.061	0.991	0.975	0.985	0.026
PD	1.680	0.058	0.985	0.987	0.965	0.048
PWB	2.184	0.077	0.983	0.966	0.970	0.038

(EA: employee advocacy; PIS: perceived insider status; PD: power distance; PWB: psychological well-being)

Another analysis that needs to be done before proceeding with the testing of the research hypotheses is to reveal whether there is a problem among the research variables in terms of discriminant validity as a whole. I checked discriminant validity by using two methods. First, the measurement model, which includes all variables (employee advocacy perceived insider status, power distance, and psychological well-being), has been tested with alternative models strategy (Anderson and Gerbing, 1988). As a result of the analyzes, it was found that the four-factor model had better good fit values than the alternative models (χ2(277) = 558.244, p = .02, RMSEA = .06, CFI= .96, GFI = .95, NNFI=.96, SRMR = .05), and the factors in the four-factor model had discriminant validity with other factors. Second, for discriminant validity, the average variance extracted (AVE) values must be greater than .50 (Fornell and Larcker, 1981). Results showed that the AVE value of the scales (employee advocacy =.76, perceived insider status =.77, power distance =.58 and psychological well-being =.61) was higher than 0.50. Thus, it can be said that discriminant validity is provided.

4.2. Hypotheses Testing

The research hypotheses were tested in two interconnected steps. In the first step, a simple mediation model was established thus determining the mediating effect of PIS in the relationship between employee advocacy and PWB without including power distance (H1, H2, H3, and H4). In the next step, power distance was included in the first step as a moderating variable and its moderating effect (H5) in the relationship between PIS and PWB, and moderated mediation effect on the impact of employee advocacy on PWB through PIS (H6) were tested.

Table 2 shows the means, standard deviations and intercorrelations of scales. When the correlation values in the table are examined; it is seen that employee advocacy is positively correlated with PIS (r = 0.62; p <0.01), and PWB (r = 0.51; p <0.01) and negatively correlated with power distance (r= -0.18; p<0.01). In addition, PIS is positively correlated with PWB (r = 0.65; p <0.01), but it is not correlated with power distance (r = -0.09). Table 2 shows the reliability of data by Cronbach alpha (in parentheses). As seen in the table all variables have high reliability (employee advocacy α=0.95; perceived insider status α=0.94; power distance α=0.73; psychological well-being α=0.91).

Table 2: Means, Standart Deviations and Intercorrelations of Scales

	1	2	3	4	M	SD
EA	(.95)				3.35	1.007
PIS	.62**	(.94)			3.68	1.060
PD	-.18**	-.09	(.73)		3.44	1.018
PWB	.51**	.65**	-.16*	(.91)	3.71	.843

(*N*=293; **p<0.01; * p<0.05; EA=employee advocacy; PIS=perceived insider status; PD=power distance; PW*B*=psychological well-being)

4.3. Test of Mediation

To test the mediating effect of PIS in the relationship between employee advocacy and PWB I used SPSS macro provided by Preacher and Hayes (2004). The results obtained from this model (Table 3) inform

about H1, H2, H3, and H4 hypotheses. Before analyzing the results, some conditions need to be mentioned concerning the existence of the mediating variable. Baron and Kenny (1986) argued that a few criteria must be met to talk about the existence of the mediation. According to these conditions: (a) employee advocacy predicts the PWB; (b) employee advocacy predicts the PIS; (c) PIS predicts the PWB; (d) when the effect of PIS is controlled, the relationship between employee advocacy and PWB can be statistically meaningless (full mediation effect) or there can be a decrease in the power of the relationship (partial mediation effect). For the statistical significance of the mediating effect, Sobel (1982) test need to be done. Sobel test suggests that indirect effect normally distributed (Preacher et al., 2007; Baron and Kenny, 1986; Fairchild and MacKinnon, 2009). This assumption is known as the abnormal distribution even if the indirect effect is normally distributed (Edwards and Lambert, 2007). For this reason, it is recommended to use the bootstrapping method to solve this problem (Preacher and Hayes, 2007; Edwards and Lambert, 2007). Bootstrapping is a nonparametric approach for effect-size estimation and hypothesis testing, making no assumptions about the existence of variables or distribution of samples (Preacher et al., 2007). It is possible to prevent power problems of indirect effect, brought with asymmetric and other abnormal sample distributions, through bootstrapped confidence intervals (Fairchild and MacKinnon, 2009).

In the context of these explanations, the presence of mediating effect can be mentioned in case of meeting the conditions revealed by Baron and Kenny (1986) (H1, H2, H3, and H4), and being significant of z value ($p < .01$) obtained as a result of Sobel test. For this purpose, a model, not including the moderating variable (power distance), was established to test whether there is an indirect effect of employee advocacy on PWB through PIS. The values for this model (*B,* SE, *t,* and *p*) were summarized in Table 3.

Table 3 presents the results for Hypotheses 1–4. Employee advocacy was positively associated with PWB, as demonstrated by a significant unstandardized regression coefficient ($B = 0.14$; $t = 8.34$; $p < 0.05$), and therefore the Hypothesis 1 was supported. The results related to Hypothesis 2 indicate that employee advocacy had a positive effect on PIS ($B = 0.65$; $t = 11.29$; $p < 0.01$). According to these results, it can be said that Hypothesis 2 was supported. Furthermore, the results for the relationship between PIS and PWB were analyzed. The results showed that PIS affected PWB positively ($B = 0.43$; $t = 8.02$; $p < 0.01$), and based on this effect it can be said that Hypothesis 3 was supported. Finally, the Hypothesis 4 was tested to determine the mediating effect of PIS. It was found that there was an indirect effect transmitted by PIS in the relationship between employee advocacy and PWB ($B = 0.28$; $p < 0.05$). This result can also be stated as PIS has a partial mediation effect on the relationship between employee advocacy and PWB. The significance of the indirect effect can be determined by looking at the significance of the "*z*" value resulting from the Sobel test (Sobel, 1982; Baron and Kenny, 1986). As a result of the Sobel test, the mediating effect was found to be significant (Sobel $z = 6.52$; $p < 0.01$). Since the confidence interval for the Bootstrapped estimated value of the indirect effect does not include zero at 99% significance level (LLCI = 0.16 and ULCI = 0.43), we can say that Sobel test results are supported by Bootstrap results (Hayes and Preacher, 2014). According to this information, it can be said that PIS has a partial mediation effect on the relationship between employee advocacy and PWB. This result means that Hypothesis 4 is supported. Moreover, this result supports the existence of the mediating effect in terms of providing the conditions (supporting of the hypotheses H1, H2, H3, and H4) set forth by Baron and Keeny (1986).

Table 3: Regression Analysis Results of the Mediating Effect

			B	***SE***	***t***	***p***
The direct effect of EA on PWB			0.14	0.06	8.34	0.012
EA has a positive effect on PIS			0.65	0.06	11.29	0.000
PIS has a positive effect on PWB			0.43	0.05	8.02	0.000
	Value	**SE**	**LL 95% CI**	**UL 95% CI**	***z***	***p***
Indirect effect and Sobel test	0.28	0.043	0.19	0.39	6.52	0.000
	M	**SE**	**LL 99% CI**	**UL 99% CI**		
Bootstrapped indirect effect	0.27	0.050	0.16	0.43		

(N=293; Bootstrap sample size= 5.000. CI= Confidence Interval; LL = Lower Limit; UL= Upper Limit. EA=Employee Advocacy; PWB=Psychological Well-Being; PIS=Perceived Insider Status)

4.4. Test of Moderated Mediation

The researchers (Edwards and Lambert, 2007; Preacher et al., 2007) found that 4 conditions must be fulfilled to be able to talk about moderated mediation (alternatively known as conditional indirect effect). When these conditions are adapted to the research scales; (a) PIS must affect PWB significantly; (b) the interaction between PIS and power distance must be significant when predicting PWB; (c) employee advocacy must has a significant effect on PWB; (d) employee advocacy must has a different conditional indirect effects on PWB at low and high power distance levels through PIS. Namely, the indirect effect of employee advocacy on PWB through PIS must be weak at low power distance, and strong at high power distance. It had been previously confirmed that the first and third conditions were supported (H1 and H3).

Testing of Hypothesis 5 and Hypothesis 6, SPSS macro program was used (Hayes, 2013; model 14). This program demonstrates the variation of the conditional indirect effect relative to the different levels of the moderating variable, facilitating the implementation of the bootstrapping method, and provides explanatory and statistical information for the rejection or acceptance of hypotheses. As a result of the analysis, data for moderating effect (H5) and conditional indirect effect (H6) were summarized in Table 4.

Table 4 presents the results for Hypotheses 5 and 6. In regards to Hypotheses 5, it was predicted that the positive relationship between PIS and PWB would be weaker for high power distance than for low power distance. As a result of the analysis, it was found that the effect of PIS and power distance interaction (PISxPD) on PWB was significant (B = -0.12; t = -2.01; $p < 0.05$). To say that Hypothesis 5 is fully supported, it must be revealed that the positive relationship between PIS and PWB is strong in the case of low power distance and vice versa. Figure 2 was formed using the data obtained to determine whether the effect of PIS on PWB shows significant differences according to the different levels of power distance.

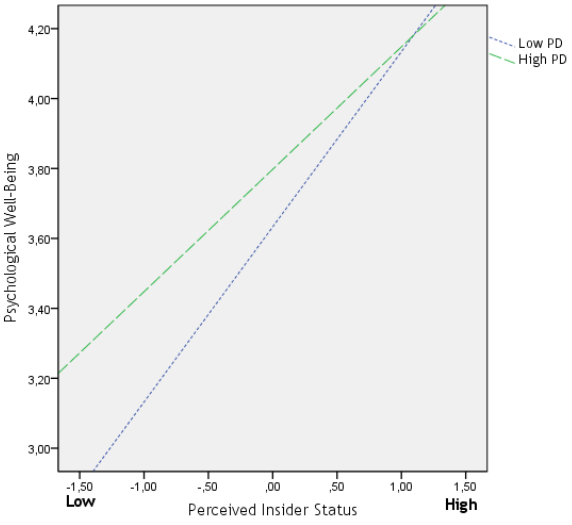


Figure 2: Power distance moderating the relationship between perceived insider status and psychological well-being.

Table 4: Regression Results for Moderated Mediation

Predictor	***B***	**SE**	**t**	***p***
DV= Perceived Insider Status				
Employee Advocacy	0.65	0.06	11.21	0.00
DV=Psychological Well-Being				
Perceived Insider Status (PIS)	0.69	0.06	4.98	0.00
Power distance (PD)	0.52	0.23	2.27	0.02
PISxPD	-0.12	0.06	-2.01	0.04
Power Distance	**Boot indirect effect**	**Boot SE**	**Boot z**	**Boot p**
The conditional indirect effect at Power Distance = $M \pm 1$ *SD*				
-1 *SD* (-0.78)	0.33	0.06	5.5	.000
M (0.00)	0.27	0.05	5.4	.000
+1 *SD* (0.78)	0.21	0.05	4.2	.000

DV=Dependent variable

As a result of the investigations, it was found that the relationship between PIS and PWB was weaker (B = .35, t = 4.97, p < .01) for high power distance than for low power distance (B = .50, t = 7.77, p < .01). Therefore, Hypothesis 5 was supported. It was also seen that one of the moderated mediation conditions was met, which is the interaction between PIS and power distance must be significant when predicting PWB (B = -0.12, t = 2.01, 95%).

The strength of the hypothesized indirect effect is conditional on the value of the moderator (power distance; see Hypothesis 6). The results of Hypothesis 6 were examined by taking into consideration the conditional indirect effect recommendations. The conditional indirect effect refers to the significant change of indirect effect according to the specific levels of the moderating variable (Preacher et al. 2007). The indirect and positive effect of employee advocacy on PWB through PIS has significantly changed according to the different levels of power distance. In conclusion, the condational indirect effect of employee advocacy on PWB through PIS was examined at two values of power distance: one standard deviation above the mean (0.78), one standard deviation below the mean (-0.78). Besides, when the results of the model index are examined, it can be said that the moderated mediation index is significant due to not containing 0 (zero) (B = -0.11, 95% CI -.13, to -.03). Thus, Hypothesis 6 was supported, such that the indirect and positive effect of employee advocacy on PWB (through PIS) was weak when power distance is high but not when it is low.

5. DISCUSSION

The results of this study are based on the data obtained from the survey conducted on the full-time employees of a company operating in the aviation industry. The aviation industry is a sensitive service industry as it is affected very quickly by many internal (employees' attitudes, the organization's attitudes towards customers, etc.) and external (economic crises, meteorological events, etc.) factors (Yeh, 2014). In this study, the effects of employees' perceived advocacy and insider status levels on their PWBs that shape employees' attitudes and behaviors towards customers were investigated according to the low and high levels of power distance. If employees' efforts to improve their quality of life and PWBs are not supported by company policies (lack of employee advocacy), all efforts of employees will be wasted (Henning, 2015). In the absence of sufficient resources and decision-making powers, it is difficult for employees to make the expected effort. It is known that such situations negatively influence employees' PWBs (Tourigny et al., 2010). The studies (Karasek, 1979; Tourigny et al., 2010) showed that employees experienced a lot of work stress in industries with time pressure and excessive workload. Similarly, as a result of researches, it was determined that the PWB levels of those who experienced work-induced stress decreased according to the amount of stress they experienced (Anand and Nagle, 2016).

5.1. Theoretical Implications

I believe the results of this study contribute to the literature by corroborating and extending previous research in several ways. Past researchers have not paid enough attention to the relationship between employee advocacy and psychological well-being. This study contributes to the literature in terms of being the first study, and to my knowledge, which deals with the relationship between these two variables with the conditional indirect effect model. In other words, this study provides a complex model that broadens the focus of employee advocacy research and how employee advocacy affects psychological well-being.

I proposed and tested a moderated mediation model that shows PIS the mediators and power distance as the moderator in relationships between employee advocacy and PWB. Research findings are demonstrated that the relationship between employee advocacy and PWB is more complex than was prior researchers' findings. Studies related to PWB usually ruled out culture (Ryff and Keyes, 1995; Panaccio and Vandenberghe, 2009). Only limited studies had paired with culture and PWB together (Rasulzada, 2007; Leersnyde et al., 2015). Also, limited studies examined PWB in the service sector (Zakaria et al., 2014). In the service sector employees' well-being have a very critical effect on organization performance (Wright and Cropanzano, 2000; Zakaria et al., 2014). This study suggests that increasing the PWB level is not only depending on employee advocacy and employees PIS level; it also depends on organizational culture.

The present study results also contribute to literature a better understanding of social exchange theory. Social exchange theory conceptualized power in terms of resources and the exchange of resources. Power differentiation affects social structures due to power asymmetry in relationships. It is possible to state that the benefit and harm owned by the social exchange are also affected by this power differentiation

and asymmetry. The frequency and distribution of the social exchange, in which the balance and symmetry of power is decisive, is an indicator of the satisfaction that the individual perceives from this exchange (Zafirovski, 2005). The balance of power and symmetry of power mean more satisfaction. The fact of satisfaction in social exchange may also mean that this relationship will continue. According to Emerson (1962), the social exchange relationship of employees with a high perception of power distance is weaker than those with a low perception of power distance. As the basis of social exchange is mutual interdependence, power distance is an important factor in these relations. It can be said that these study results support Emerson's (1962) assumptions about the relationship between social exchange and power. In other words, in terms of social exchange theory, organizations desire that employees have a high level of psychological well-being, while employees want the organization's policies to be transparent and their contribution to the organization to be valued by the organization. The strengthening of this social exchange relationship takes place when the organization has a culture where low power distance is applied.

5.2. Practical Implications

For managers and organizations, this study suggests some practical implications. First, the results of the research demonstrate that the ground service workers' psychological well-being and perceived internality status are directly affected by the employee advocacy (Hypotheses 1 ve Hipotez 2 are supported). When the employee advocacy increases, the psychological well-being and perceived insider status of the employees also increase (Eisenberger et al., 1986). Employee advocacy refers to the transparency of the company's employee policy and the willingness to act for the interests of the employees. Employee advocacy also depends on how employees perceive managerial practices (Yeh, 2014). Managers can increase employee advocacy by taking into account employees' complaints, protecting them from discriminatory employment practices, treating them fairly and making them feel that their contribution to the organization is important (Şanlı, 2016). Second, research findings revealed that perceived insider status mediated the relationship between employee advocacy and psychological well-being (Hypothesis 3 is supported). In the increase of employee's PWB, it is necessary not only the employee advocacy is high, but also employee's PIS must be high. In addition, the happiness of employees has a considerable effect on organizational goals for all sectors especially the service sector (Eisenberger et al., 2001; Stamper and Masterson, 2002). Managers can positively contribute to the psychological well-being of employees by increasing their insider status and employee advocacy perception thanks to the practices that employees feel valued and part of the organization (eg, feedback, promotion, and included in decisions). Third, hypothesis 5 predicted that increasing employees' PWB levels can be provided by increasing employees' PISs and level of power distance. Research findings demonstrate that the positive effect of perceived insider status on psychological well-being is strong when power distance is low, and weak power distance is high (Hypothesis is 5 supported). This study also highlighted the positive indirect effect of employee advocacy on psychological well-being through perceived insider status is strong when power distance is low, and weak power distance is high (Hypothesis is 6 supported). In organizations with a high power distance, the positive effects of employee advocacy and perceived insider status on psychological well-being are reduced. Because in such organizations, the delegation of authority is problematic, the transparency of the organization's management policies and the willingness to act for the interests of employees (employee advocacy) are reduced (Giapponi and Scheraga, 2007). In addition, the high power distance causes the employees' perceived organizational support and justice perceptions to be weakened, thereby decreasing the perceived insider status and not seeing themselves as part of the organization (Zheng et al., 2019). For this reason, to increase the psychological well-being of the employees, organizational managers must create an organizational culture with a low power distance.

5.3. Limitations and Future Research

In this part, the limitations and recommendations for future studies were mentioned. The first limitation of the study relates to the use of cross-sectional self-reported data. Because of the use of a cross-sectional method, this study does not provide information about the causality aspect of the study. Podsakoff et al. (2003) revealed that self-reported data may cause common method bias. The common method bias may cause the correlation values between scales to be greater than normal. However, Podsakoff et al. (2012) claimed that it would be wrong to say that the interactions between scales are definitely due to common method variance. Although the reliability and validity of the research scales have been proven in many studies before and

the differences of scales have been demonstrated by confirmatory factor analysis in this study, it cannot be said that there is no common method variance. Future studies can solve common method bias problem by collecting data from different sources at different times. The use of power distance from the cultural dimensions introduced by Hofstede (1980, 2001) as a moderating variable might be perceived as the third limitation of this study. In many studies, power distance was used as a moderating variable (Zhang and Begley, 2010; Purwanto, 2018; Thomas, 2015; Gul et al., 2018). Future studies can also include different cultural dimensions (masculinity-femininity, individualism-collectivism, etc.) in the model, resulting in more comprehensive results in terms of cultural impact (Gul et al., 2018). Lastly, the collection of research data only in Turkey can be considered as another constraint. Hofstede (1980) revealed that power distance is a cultural indicator that differs from society to society or country to country. He determined that power distance is low in some countries (e.g., America, Germany, England) while high in some countries (e.g., Mexico, India, Brazil, etc.). Turkey is among the countries with high power distance. As power distance varies from country to country, different results may be obtained in countries with low power distances.

REFERENCES

Akgunduz, Y. and Sanli, S. C. (2017). The effect of employee advocacy and perceived organizational support on job embeddedness and turnover intention in hotels, *Journal of Hospitality and Tourism Management*, 31, pp. 118-125.

Akyol, Ş. (2009). Örgüt Kültüründe Güç Mesafesi ve Liderlik İlişkisi *[Power Dıstance and Leadership Relatıon in Organızatıonal Culture*]. (Unpublished Doctoral Thesis). Marmara University Social Science Institute: İstanbul.

Anand, K. and Nagle, Y. K. (2016). Perceived stress as predictor of psychological well-being in Indian youth, *The International Journal of Indian Psychology,* 3(4), pp. 211-217.

Anderson, J. C. and Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103, pp. 411–423.

Aykan, E. and Akgül, H. (2018). Çalışanların örgütsel destek ve işgören avukatlığı algılarının işten ayrılma niyetleri üzerindeki etkisi: Kayseri lojistik sektöründe bir uygulama [The effect of organizational support and employee advocacy perceptions of employees' on their turnover intention: an application in Kayseri logistics industry]. *Düzce Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *8*(1), pp. 34-50.

Babbie, E. (2001). The Practice of Social Research. 9th Edition, Wadsworth Thomson, Belmont.

Baron, R. M. and Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations, *Journal of Personality and Social Psychology*, 51, pp. 1173-1182.

Bergiel, E. B., Bergiel, B. J., and Upson, J. W. (2012). Revisiting Hofstede's dimensions: examining the cultural convergence of the United States and Japan, *American Journal of Management,* 12(1), pp. 69-79.

Ban, H. J. and Kim, H. S. (2019). Understanding customer experience and satisfaction through airline passengers' online review. *Sustainability*, 11(15), pp. 1-17.

Blau, P. (1964). *Power and Exchange in Social Life*. New York: J Wiley and Sons.

Bradburn, N. M. (1969). *The Structure of Psychological Well-Being*. National opinion research center, Chicago: Aldine Publishing Company.

Buonocore, F., Metallo, C., and Salvatore, D. (2009). Behavioural consequences of job insecurity and perceived insider status for contingent workers, *In System Congress*, http://www.woa2009.it/papers/Buonocore_Metallo_Salvatore.pdf, 1-29, (Accessed date 09.14.2018), pp. 1-29.

Caesens, G., Stinglhamber, F., and Ohana, M. (2016). Perceived organizational support and well-being: A weekly study. *Journal of Managerial Psychology*. 31(7), pp. 1214-1230.

Chan, K. W. and Wan, E. W. (2012). How can stressed employees deliver better customer service? The underlying self-regulation depletion mechanism, *Journal of Marketing*, 76, pp. 119-137.

Cropanzano, R. and Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review, *Journal of Management*, 31(6), pp. 874-900.

Dai, L. and Chen, Y. (2015). A systematic review of perceived insider status, *Journal of Human Resource and Sustainability Studies*, 3, pp. 66-72.

Dalgıc, A., Birdir, K., and Guler, O. (2016). The effect of employee advocacy on role conflict and role ambiguity pf workers: a research on hotel employees, *3rd International Congress of Tourism and Management Researches.* Antalya, Turkey, pp. 1193-1212.

Daniels, K. and Harris, C. (2000). Work, psychological well-being and performance, *Occupational Medicine*, 50(5), pp. 304-309.

Daniels, M. A. and Greguras, G. J. (2014). Exploring the nature of power distance: Implications for micro-and macro-level theories, processes, and outcomes, *Journal of Management,* 40(5), pp. 1202-1229.

Diener, E., Kahneman, D., and Helliwell, J. (2010). *International Differences in Well-Being*, New York: Oxford University Press.

Dorfman, P. W. and Howell, J. P. (1988). Dimensions of national culture and effective leadership patterns: Hofstede revisited, In E. G. McGoun (Ed.), *Advances in International Comparative Management,* 3, pp. 127-150.

Edwards, J. R. and Lambert, L. S. (2007). Methods for integrating moderation and mediation: a general analytical framework using moderated path analysis, *Psychological Methods*, 12(1), pp. 1-22.

Emerson, R. M. (1962). Power-dependence relations, *American Sociological Review*, pp. 31-41.

Emerson, R. M. (1976). Social exchange theory, *Annual Review of Sociology*, 2, pp. 335-362.

Eisenberger, R., Huntington, R., Hutchison, S., and Sowa, D., (1986). Perceived organizational support. *J. Appl. Psychol*. 71 (3), pp. 500e507.

Fairchild, A. J. and MacKinnon, D. P. (2009). A general model for testing mediation and moderation effects, *Prevention Science*, 10, pp. 87-99.

Fornell, C., and Larcker, D. F. (1981). Evaluating structural equation model with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), pp. 39–50.

Giapponi, C. and Scheraga, C. (2007). *The Impact of Cross-Cultural Factors on Corporate Governance Transparency: The Implication for Strategic Alliances in the Airline Industry* (No. 1428-2016-118587).

Gul, H., Usman, M., Liu, Y., Rehman, Z., and Jebran, K. (2018). Does the effect of power distance moderate the relation between person environment fit and job satisfaction leading to job performance? Evidence from Afghanistan and Pakistan, *Future Business Journal,* 4, pp. 68-83.

Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. New York: The Guilford Press.

Hayes, A. F. and Preacher, K. J. (2014). Statistical mediation analysis with a multicategorical independent variable, *British Journal of Mathematical and Statistical Psychology*, 67, pp. 451-470.

Helmreich, R. L., Wilhelm, J. A., Klinect, J. R., and Merritt, A. C. (2001). Culture, error and crew resource management. *Improving teamwork in organizations: Applications of Resource Management Training*, *305331*.

Hofstede, G. (1980). Culture and organizations, *International Studies of Management and Organization,* 10, pp. 15-41.

Hofstede, G. (1984). Culture's consequences: International Differences in Work-Related Values, London: Sage Publigations.

Horng, J. S., Tsai, C. Y., Hu, D. C., and Liu, C. H. (2016). The role of perceived insider status in employee creativity: Developing and testing a mediation and three-way interaction model. *Asia Pacific Journal of Tourism Research*, 21(sup1), pp. 53-75.

Kenny, D. A., Kashy, D. A., and Bolger, N. (1998). Data analysis in social psychology, In D. T. Gilbert, S. T. Fiske, and G. Lindzey (Eds.), *The handbook of social psychology*. Boston, MA: McGraw-Hill, pp. 233–265.

Kim, J. (2008). Perception of social exchange and psychological well-being: a study focusing on social exchange in Korea between 1997 and 2000, *Journal of Applied Social Psychology*, 38(11), pp. 2821-2858.

Kim, D.-O. (2009). Employees' perspective on non-union representation: A com-parison with unions, *Economic and Industrial Democracy*, 30(1), pp. 120-151.

Liao, S. H., Widowati, R., Hu, D. C., and Tasman, L. (2017). The mediating effect of psychological contract in the relationships between paternalistic leadership and turnover intention for foreign workers in Taiwan, *Asia Pacific Management Review*, 22(2), pp. 80-87.

Lindbeck, A. and Snower, D. J. (2001). Insiders versus outsiders, *Journal of Economic Perspectives*, 15, pp. 165-188.

March, J. G. and Simon, H. A. (1958). *Organizations*, New York: Wiley.

Ni, C. and Wang, Y. (2015). The impact of perceived organizational support and core self-evaluation on employee's psychological well-being. *Journal of Human Resource and Sustainability Studies*, *3*(02), pp. 73-81.

Panaccio, A. and Vandenberghe, C. (2009). Perceived organizational support, organizational commitment and psychological well-being: A longitudinal study, *Journal of Vocational Behavior,* 75, pp. 224-236.

Podsakoff, P. M., MacKenzie, S. B., and Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it, *Annual Review of Psychology,* 63, pp. 539-569.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., and Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies, *Journal of Applied Psychology*, 88(5), pp. 879-903.

Preacher, K. J., Rucker, D. D., and Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions, *Multivariate Behavioral Research*, 42(1), pp. 185-227.

Purwanto, E. (2018). Moderation effects of power distance on the relationship between job characteristics, leadership empowerment, employee participation and job satisfaction: A conceptual framework, *Academy of Strategic Management Journal*, 1(1), pp. 1-9.

Rasulzada, F. (2007). Organizational creativity and psychological well-being. Lund University Department of Psychology (Published Doctoral Thesis), http:// www. farida. se/Farida_Rasulzada_book. pdf, 18, 2014.

Raub, S. P. (2016). Perceived insider status and job design predict job attitudes and work performance of restaurant employees, *Journal of Hospitality and Tourism Research*, 20(10), pp. 1-24.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being, *Journal of Personality and Social Psychology,* 57(6), pp. 1069-1081.

Ryff, C. D. (1995). Psychological well-being in adult life, *Current Directions in Psychological Science,* 4(4), pp. 99-104.

Ryff, C. D. and Keyes, C. L. M. (1995). The structure of psychological well-being revisited", *Journal of Personality and Social Psychology*, 69(4), pp. 719-727.

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., and King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review, *The Journal of Educational Research,* 99(6), pp. 323-338.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models, *Sociological Methodology*, 13, pp, 290-312.

Stamper, C. L. and Masterson, S. S. (2002). Insider or outsider? How employee perceptions of insider status affect their work behavior, *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior,* 23, pp. 875-894.

Steel, P., Taras, V., Uggerslev, K., and Bosco, F. (2018). The happy culture: A theoretical, meta-Analytic, and empirical review of the relationship between culture and wealth and subjective well-being, *Personality and Social Psychology Review*, Vol. 22, pp. 128-169.

Şanlı, S. C. (2016). İşgören avukatlığı ve algılanan örgütsel desteğin çalışanların işe gömülmüşlük ve işten *ayrılma niyeti üzerine etkisi: Otel çalışanları üzerine bir araştırma [The effects of employee advocacy and perceived organizational support on job embeddedness and intentions to quit job: A study on hotel employees]* (Yayınlanmamış Yüksek Lisans Tezi). Mersin Üniversitesi Sosyal Bilimler Enstitüsü Turizm İşletmeciliği Anabilim Dalı, Mersin.

Telef, B. B. (2013). Psikolojik iyi oluş ölçeği: Türkçeye uyarlama, geçerlik ve güvenirlik çalışması [The adaptation of psychological well-being into Turkish: A validity and reliability study]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *28*(28-3), pp. 374-384.

Thomas, D. (2015). The moderating effects of power distance and collectivism on empowering leadership and psychological empowerment and self-leadership in international development organizations, Faculty Publications - School of Business. 80.

Türeli, N. Ş., Durmaz, V., Bahçecik, Y. S., and Akay, S. S. (2019). An analysis of importance of innovatice behaviors of ground handling human resources in ensuring customer satisfaction. *Procedia Computer Science*, 158, pp. 1077-1087.

Volmer, J., Niessen, C., Spurk, D., Linz, A., and Abele, A. E. (2011). Reciprocal relationships between leader–member exchange (LMX) and job satisfaction: A cross-lagged analysis, *Applied Psychology*, 60(4), pp. 522-545.

Wright, T. A. and Cropanzano, R. (2000). Psychological well-being and job satisfaction as predictors of job performance, *Journal of Occupational Health Psychology*, 5(1), pp. 84-94.

Wright, T. A. and Cropanzano, R. (2004). The role of psychological well-being in job performance: A fresh look at an age-old quest, *Organizational Dynamics*, 33(4), pp. 338-351.

Yayla-Kullu, H. M., Tansitpong, P., Gnanlet, A., McDermott, C. M., and Durgee, J. F. (2015). Impact of national culture on airline operations, *Operations Management Research*, 8(3-4), pp. 101-117.

Yeh, Y. P. (2014). Exploring the impacts of employee advocacy on job satisfaction and organizational commitment: Case of Taiwanese airlines, *Journal of Air Transport Management*, 36, pp. 94-100.

Zafirovski, M. (2005). Social Exchange Theory under Scrutiny: A Positive Critique of its EconomicBehaviorist Formulations. *Electronic Journal of Sociology*, 2(2), pp. 1-40.

Zakaria, M., Abdulatiff, N. K., and Ali, N. (2014). The role of wellbeing on performance in services sector, *Procedia-Social and Behavioral Sciences,* 164, pp. 358-365.

Zhang, Y. and Begley, T. M. (2011). Power distance and its moderating impact on empowerment and team participation, *The International Journal of Human Resource Management,* 22(17), pp. 3601-3617.

Zheng, X., Zhu, W., Zhao, H., and Zhang, C. (2015). Employee well-being in organizations: Theoretical model, scale development, and cross-cultural validation, *Journal of Organizational Behavior,* 36, pp. 621-644.

Zheng, X., Li, L., Zhang, F., and Zhu, M. (2019). The roles of power distance orientation and perceived insider status in the subordinates' Moqi with supervisors and sustainable knowledge-sharing. *Sustainability*, *11*(5), pp. 1-17.

EGE AKADEMİK BAKIŞ / *EGE ACADEMIC REVIEW*

Cilt 20 • Sayı 3 • Temmuz 2020
SS. 193 / 207
Doi: --
Başvuru Tarihi: 18.04.2020 • Kabul Tarihi: 29.06.2020

A Comparison of New Factor Models: Evidence From Turkey

Nesrin ÖZKAN[1]

ABSTRACT

The purpose of this paper to compare the performances of new factor models with the former models in Turkey. In that aim, newly proposed q-factor model and Fama-French five factor model are compared with Fama-French three factor, Carhart four factor and Pástor-Stambaugh factor models. The performance metric is chosen as maximum squared Sharpe ratio which gives a better understanding in comparison of two or more models accordance to Barillas and Shanken (2017). As per the measure of maximum squared Sharpe ratio, the q-factor model outperforms of all between July 2009 and June 2017. After that, Carhart four factor model follows as the second best performing model. It is considered that this result may be due to the portfolio formation frequency of profitability and momentum factors. Thus, it can be inferred that the higher the data frequency, the better the explanatory power of the model. Although Fama-French five factor model is similar to q-factor model, the considerable outperformance of q-factor model can be attributed to the way of factor construction and calculation. Consequently, it seems as though the performance of the model is sensitive to the way of factor construction and calculation.

Keywords: q-factor model, Fama-French five factor model, Turkey.

JEL Classification: G12, G14

1.Introduction

Fama-French five factor model and the q-factor model bring a new extent to the asset pricing. They both asserted the investment and profitability played crucial roles on unexplained returns but somehow differences. It seems as though they have reached the common point from different aspects. Fama and French (2015) explain the relation between returns, investment and profitability in the light of valuation theory while Hou, Xue and Zhang (2015) describe it by q-theory of investment.

According to Fama and French (2015: 4), there is a conditionality among book-to-market equity ratio (BE/ME), investment and profitability. In other words, BE/ME, profitability and investments are correlated. When profitability and investment are stable, there occurs a positive relation between book-to-market equity and expected returns. On the other hand, the stocks that have high BE/ME value tend to own low profitability and investment, and vice versa. Hou, Xue and Zhang (2015: 652) describe the relationship between investment, profitability and stock returns by the means of expected cash flows. When the cost of capital is high, investments fall because the net present value of new investment lowly realizes. High expected profitability with respect to low investment denotes to high cost of capital that helps to stabilize the low net present value of new investment. If it wasn't sufficiently high, firms would increase their capital owing to the high net present value of new investment.

While Fama and French (2015) justify the superiority of five factor model, Hou, Xue and Zhang (2015) put forward the q-factor model is all the better. So that the recent studies focus on the comparison of models both in developed and emerging markets. Koh (2015) compared the performances of Carhart four factor model, Fama-French five factor model and the q-factor model between 1926 and 1967 in the US. stock market. It is asserted that q-factors were better than Fama-French factors. It is further propelled that the q-factors could

[1] **nsrozkn@gmail.com**

not be captured by Fama-French factors, whereas Fama-French factors could be captured by the q-factor model. Besides that, momentum found the strongest effect with 0.68% monthly premium. Kang, Kang and Kim (2015) tested the Fama-French three factor model, Fama-French five factor model and q-factor model in the Korean stock market. Non-financial firms are included in the analysis and sample period is chosen between July of 2002 and June of 2015. In construction of profitability factor, quarterly data is used and the authors asserted the quarter-based profitability measure in the q-factor model is far better to capture the variation of average returns. GRS-F statistics and average absolute alpha values are chosen as performance metrics. In the findings of the study, it is emphasized the importance of monthly constructed profitability factor. In addition, it is suggested to further test Fama-French five factor model by modifying the quarter-based profitability factor. Fabozzi, Huang and Wang (2016) compared the performance of the q-factor model with Fama-French five factor model between 1972 and 2013. The premiums for the q-factor model are attained as 0.51%, 0.31%, 0.44%, 0.57% for market, firm size, investment and profitability, respectively. The market, firm size, value, investment and profitability premiums are calculated 0.53%, 0.23%, 0.39%, 0.37% and 0.29% respectively for Fama-French five factor model. The findings showed that the q-factor model outperformed Fama-French five factor model in the analysis period. Another study conducted by Cooper and Maio (2019) who examined whether conditional multifactor models present better performance than unconditional multifactor models in the US. market. The analysis period is held between 1972 and 2013. In the study, 25 Capital Asset Pricing Model (CAPM) anomalies are determined and then CAPM, Fama-French three factor model, Carhart four factor model, Fama-French five factor model and q-factor models are tested. The main finding is that the conditional models are far better than unconditional models. Furthermore, the q-factor model is mainly superior in explaining momentum and profitability anomalies but Fama-French model is better in value-growth anomalies. It appears as though this dispute will go on for some time. However, it is substantially necessary to determine the better performing models not only for developed markets but also for emerging markets.

The factor models attract considerable attention in Turkey as well. Preliminary literature mostly concentrates on the validity of Fama-French three factor model (Gökgöz, 2008; Arıoğlu and Canbaş, 2008; Atakan and Gökbulut, 2010; Güzeldere and Sarıoğlu, 2012). All those studies evidenced the superity of Fama-French three factor model. On the other hand, few studies are conducted to present the comparative performances of factor models. Aksu and Önder (2003) investigated the validity of Fama-French three factor model by comparing with CAPM between 1993 and 1997. For that purpose, they construct SMB and HML factors by following Fama and French (1993) methodology. The authors found that Fama-French three factor model is superior to CAPM. Unlu (2013) tested the validity of Fama-French three factor, Carhart four factor model and Pástor-Stambaugh models in Borsa Istanbul between 1992 and 2011. The author used GRS-F test in decision of the validity of models but the performance comparison is not conducted in the analysis. Thus, it is concluded that they all are valid models and could be used in Borsa Istanbul. Erdinc (2017) tested CAPM, Fama-French three factor and Fama-French five factor model for the analysis period of 2000 and 2017. The author used non-financial 263 firms in the analysis. GRS-F test and average absolute alpha values are fundamentally used as performance metrics in the determination of best performing model. CAPM showed the lowest absolute alpha value but the model has insignificant GRS-F test value. Fama-French five factor model has been found better than CAPM and Fama-French three factor model. Acaravcı and Karaomer (2018) evaluated the performances of CAPM with Fama-French factor models between 2005 and 2016. For that purpose, they have constructed Fama-French three factor model, Fama-French four factor models (by augmenting profitability factor to three factor model) and Fama-French five factor models. In the study, time series regression method is used and GRS-F test is carried out as a performance metric. The authors asserted the best performing model is Fama-French five factor model of all. On the other hand, the factor premiums are lowly obtained even negative for value factor. Aras, Cam, Zavalsız and Keskin (2018) reinvestigated the comparative success of the models and more specifically whether Fama-French five factor model is better than CAPM, Fama-French three factor model. The authors alleged that the paper overcame the shortcomings of previous studies of Acaravcı and Karaomer (2018) and Erdinc (2017). The analysis is held between January 2005 and June 2017. The regression results present the success of Fama-French five factor model and this is in line with previous literature. Early studies have measured the performance of new Fama-French five factor model thus far, Ozkan (2019) has explored

the outperformance of the q-factor model in Borsa Istanbul. The model consists of market, size, investment and profitability factors those are taken independent variables in regressions and excess returns are dependent variable. In the analysis, eighteen value-weighted portfolios are constructed by taking the intersections of size, investment and profitability portfolios. The regression results have proved the validity of the new model in Borsa Istanbul between 2009 and 2016.

Since the comparison of new models are quite limited in literature, I intended to compare the performances of Fama-French three factor model (hereafter FF3), Carhart four factor (hereafter C4), Pástor-Stambaugh model (hereafter PS) with new models of Fama- French five factor model (hereafter FF5) and the q-factor model. To the best of my knowledge, this study is being the most comprehensive research for the determination of comparative performances of factor models in Turkey. Moreover, one of the few studies on new asset pricing models that test the performance of the q-factor and Fama-French five factor models together in literature.

The rest of the paper is organized as followings. Section 2 describes the multifactor models and under the subheading of the former models that are considered FF3, C4 and PS factor models are explained. Under the subheading of new models, FF5 factor model and the q-factor models are described in details. The short description of the data set and methodology is given in Section 3. Section 4 provides the analysis results that comprise of descriptive statistics, correlation matrix and regression outcomes. Section 5 is the conclusion that summarizes the main findings, outcomes and the subjects to further examine in the future.

2.Multifactor Models

CAPM anomalies paved the way for developing new factor models in asset pricing. In CAPM, the market risk is the sole factor in explaining the average returns. Shortly after CAPM, firm size and book-to market equity ratio are explored and defined as risk factors in explaining the returns by Fama and French (1992, 1993 and 1995). Afterall, additional factors are introduced such as momentum and liquidity. All those factors are cumulatively added to market risk factor and nominated as FF3 factor model, C4 factor model and PS factor models.

2.1. Former Models: Fama-French Three Factor Model, Carhart Four Factor Model and Pástor-Stambaugh Factor Model

Fama and French (1992) identified the stocks with low market equity and high book- to-market ratio risky. The investors holding these stocks, bear the additional risk and so that they ought to take extra premium for the compensation of the risk. In Fama-French three factor model, the excess return over risk-free rate is described by market, size and value factors and shown as in regression equation (1):

$$r_t - r_{F,t} = \alpha + \beta\,(r_M - r_F)_t + s\,SMB_t + h\,HML_t + \varepsilon_t \quad (1)$$

$r_t - r_{F,t}$: The excess return of portfolio over the risk-free rate

$(r_M - r_F)_t$: The excess return of the market portfolio over the risk-free rate

SMB_t : The difference in returns of a portfolio of small stocks and a portfolio of big stocks.

HML_t : The difference in returns of a portfolio of stocks with high book-to-market ratio and a portfolio of stocks with low book-to-market ratio.

where, r_F is the risk-free rate, r_M is the market return, α is the intercept, β, s and h are factor loadings (coefficients).

SMB factor is the firm capitalization (or market equity) that is calculated by the number of shares outstanding times closing stock price and HML factor is calculated by dividing the value of company's book equity to market equity.

Jegadeesh and Titman (1993) explored the profitability of an investment strategy that is based on steadily selling past loser stocks and holding past winner stocks and which is denominated as *momentum*. After a while, Carhart (1997) four factor model is introduced by adding momentum factor (WML_t) to FF3 factor model as given in equation (2).

$$r_t - r_{F,t} = \alpha + \beta\,(r_M - r_F)_t + s\,SMB_t + h\,HML_t + w\,WML_t + \varepsilon_t \quad (2)$$

WML_t : The difference in returns of a portfolio of stocks with high prior returns and a portfolio of stocks with low prior returns.

where, *w* is the additional factor loading.

In the model, momentum factor is calculated in accordance with prior 11-months returns for each stock. The factor is distinctively calculated monthly instead of yearly so that the portfolios are rebalanced each month. In regression equation (3), Pástor-Stambaugh model is shown as seen below:

$$r_t - r_{F,t} = \alpha + \beta\,(r_M - r_F)_t + s\,SMB_t + h\,HML_t + l\,ILLQ_t + \varepsilon_t \quad (3)$$

$ILLQ_t$: The difference in returns of a portfolio of illiquid stocks and a portfolio of liquid stocks.

where, *l* is the additional factor loading.

Amihud's illiquidity ratio is commonly used as a proxy of liquidity in literature. Since the investors claim extra premium for holding illiquid stocks, it is provided by Amihud's illiquidity premium. For the calculation of illiquidity, the closing prices and trading volume are used by following the method of Amihud (2002).

2.2. New Models: The q-Factor Model

Hou, Xue and Zhang (2015: 651) introduced the q-factor model and explained the excess returns over risk-free rate by market, size, investment and profitability factors as given in equation (4):

$$r_t - r_{F,t} = \alpha + \beta\,(r_M - r_F)_t + \beta_s\,ME_t + \beta_i\,INV_t + \beta_r\,ROE_t + \varepsilon_t \quad (4)$$

ME_t : The difference in returns of a portfolio of small stocks and a portfolio of big stocks.

INV_t : The difference in returns of a portfolio of low investment stocks and a portfolio of high investment stocks.

ROE_t : The difference in returns of a portfolio of high profitability stocks and a portfolio of low profitability stocks.

where β, β_s, β_i, and β_r are factor loadings.

The authors test the model in the US. market and compare it with FF3 and C4 factor models using the data from 1972 to 2012. In order to determine the explanatory power of models, selected 80 anomaly variables are used that are commonly investigated in international markets. GRS-F statistics is used as a decision criteri for the best performing model. The null hypothesis is rejected at 20 tests in regressions of the q-factor model while 28 tests for FF3 factor model and 24 tests for C4 factor model. This finding revealed the superiority of q-factor model over FF3 and C4 factor models. Furthermore, the factor premiums are calculated 0.31%, 0.58% and 0.45% for size, profitability and investment, respectively.

In literature, various income proxies are used as profitability. Hou, Xue and Zhang (2015, 2017) used *Income Before Extraordinary Items* for profitability proxy in their studies. Due to the data availability, I used the *Income From Continuing Operations* to calculate ROE factor as given below.

$$ROE = Income\ From\ Continuing\ \mathrm{Op}erations_{q-1} \,/\, Book\ Value_{q-2}$$

In the model, market, size and investment factors are calculated yearly. Contrary to these factors, ROE factor is calculated based on quarterly data. ROE is achieved by dividing recent-announced quarterly income to previous quarter's book value. To this end, earnings announcement dates are controlled each month and used the most recent data in portfolio formation. The underlying reason of using the latest earnings is to represent the newest information about firm profitability (Hou, Xue and Zhang, 2015: 663). On the other hand, four months gap is given for the portfolio formation in the model. In other words, the time interval between the accounting data and portfolio construction is left four months. In practice, six-month gap is generally preferred to prevent "look-ahead bias[1]" or maintain the "information effect". By controlling the announcement dates each month, the possible bias is eliminated for the model.

The investment factor (INV) is calculated by taking the change in total assets between two consecutive years as in shown below.

$$INV = (Total\ Assets_{t-1} - Total\ Assets_{t-2}) \,/\, Total\ Assets_{t-2}$$

Finally, size is the number of shares outstanding times closing stock price as being used in FF3 factor model.

2.3. New Models: Fama-French Five Factor Model

Fama and French (2015, 2016) identified two new factors and added them to three factor model. In addition to market, size and value factors, investment and profitability factors are tacked to the model. In new model, excess returns are explained by five factors as in regression equation (5):

$$r_t - r_{F,t} = \alpha + \beta\,(r_M - r_F)_t + s\,SMB_t + h\,HML_t + r\,RMW_t + c\,CMA_t + \varepsilon_t \quad (5)$$

Similar to the q-factor model, the profitability (RMW) and investment (CMA) factors are identified as followings:

CMA_t : The difference in returns of a portfolio of low investment stocks and a portfolio of high investment stocks.

RMW_t : The difference in returns of a portfolio of high profitability stocks and a portfolio of low profitability stocks.

where, r and c are additional factor loadings.

Fama and French (2015) examine the explanatory power of five factor model in the US. market between the period of 1963 and 2013. The findings revealed that five factor model is better than three factor model. When we take a close look at new factors, we can notice the investment factor is similar to the q-factor model, however profitability is rather different. The operating income is used as the profitability proxy in the model and it is taken from annual accounting data. Thus, RMW factor is constructed yearly and rebalanced on June of each year. The calculation of the factor is as followings:

$$RMW = Operating\ Income_{t-1} \,/\, Book\ Value_{t-1}$$

Since FF5 factor model is the extension of FF3 factor model, (r_M-r_F), partially SMB and HML factors are the same, and also CMA factor is similar to the INV factor in the q-factor model. As being FF3 factor model, the gap remains six-months between accounting data and portfolio formation.

3. Data and Methodology

This section describes primarily the data used in the analysis, following the construction of the factors and lastly maximum squared Sharpe ratio.

3.1. Data

The time series regression approach is used in the analysis by following Hou, Xue and Zhang (2015). The analysis period is chosen between 2009 to 2017 by taking into consideration the data availability. The number of shares outstanding is taken from Central Securities Depository (CSD) Institution website and Borsa Istanbul. The accounting data and earnings announcement dates are from the website of Public Disclosure Platform and the risk-free rate is from the website of Central Bank of the Republic of Turkey. BIST 100 is used as the proxy of market return (r_M) and obtained from Borsa Istanbul. Finally, monthly stock prices are from Borsa Istanbul Datastore and returns are calculated for each month as below:

$$r_t = \frac{p_t - p_{t-1}}{p_{t-1}}$$

where,

r_t : stock return of time t

p_t : adjusted stock price of time t

p_{t-1} : adjusted stock price of time t-1

The analysis has some limitations. Financials and the firms with a negative book equity are excluded from the sample. The earnings announcement dates were controlled in analysis, therefore time period started at 2009 due to the data limitation. The firms with unavailable data are not included in the sample in corresponding period. The firms that went bankruptcy are included in the sample in order to prevent any selection bias[2].

By following Barillas and Shanken (2017), maximum squared Sharpe ratio of factors is used in comparison of factor models. The maximum squared Sharpe ratio of intercept ($Sh^2(\alpha)$) is formulated as below:[3]

$$Sh^2(\alpha) = Sh^2(\Pi) - Sh^2(f)$$

In formulation, if the objective is to minimize the $Sh^2(\alpha)$, it could be reached by maximizing the maximum Sharpe ratio of factors ($Sh^2(f)$).

Finally, the portfolios are structured in Ms. Excel, the regressions are run both in Stata 12 and Eviews 10. Stata 12 is also used for White Test, Durbin-Watson Test and maximum squared Sharpe ratio in the analysis.

3.2. Construction of Factors

For FF3 factor model, SMB and HML factors are constructed by keeping Fama and French (1993) methodology. To this end, each year t of June, the stocks are ranked as per market capitalization and sorted into two size group as Big (B) and Small (S). As a breakpoint of size groups, the median of market capitalization is taken into consideration. For HML, the stocks are sorted by book-to-market ratio and then divided into three groups. The NYSE breakpoints are taken as a reference in determining the groups as %30 of Low (L), %40 of Medium (M) and %30 of High (H). The intersection of two size and three book-to-market groups generate six portfolios (abbreviated as SL, SM, SH, BL, BM, BH). Each year on June, the portfolios are rebalanced and the value- weighted returns are calculated from July of year t to June of year t+1. Afterall SMB and HML factors are attained as shown below.

$$\mathrm{SMB} = (SL + SM + SH)/3 - (BL + BM + BH)/3$$

$$\mathrm{HML} = (SH + BH)/2 - (SL + BL)/2$$

The WML factor is constructed in accordance with 11-months prior returns. For month t, the cumulative returns are calculated from t-11 to t-1. The cumulative returns are ranked in descending order and break into three groups as %30 of Winner (W), %40 of Neutral (N) and %30 of Loser (L). Then six portfolios (abbreviated as SL_{WML}, SN, SW_{WML}, BL_{WML}, BN, BW_{WML}) are formed by taking the intersection of two size and three momentum groups. After that, value-weighted returns are calculated and the WML factor is generated as below:

$$\mathrm{WML} = (SW_{WML} - SL_{WML})/2 + (BW_{WML} - BL_{WML})/2$$

The ILLQ factor is constructed by dividing the absolute returns of the stock to its traded volume. After calculating illiquidity for each, stocks are ranked by ILLQ measure and sorted as %30 of Low (L), %40 of Medium (M) and %30 of High (H). The intersection of two size and three illiquidity groups generate six portfolios (abbreviated as SIL, SIM, SIH, BIL, BIM, BIH).

$$\mathrm{ILLQ} = (SIH + BIH)/2 - (SIL + BIL)/2$$

In the q-factor model, the portfolios are constructed on threefold sort. Thus the intersection of two size portfolios (Small and Big) are taken in conjunction with three investment and three profitability groups that can be represented as "2x3x3". Each June, the stocks are ranked by market capitalization and sorted as Big (B) and Small (S). Next, the stocks are ranked as per investment and divided into three groups by taking the reference of NYSE breakpoints of %30-%40-%30. The same goes for profitability. The stocks are ranked in descending order in accordance with their profitability values. The top %30 is nominated High (H), the %30 of the bottom is Low (L) and %40 of the middle is Medium (M). By taking the intersection of those groups achieved eighteen portfolios[4]. The profitability is calculated monthly and each month the portfolios are rebalanced.

The size factor (ME) is obtained as below:

$$\mathrm{S} = (\mathrm{SLL} + \mathrm{SLM} + \mathrm{SLH} + \mathrm{SML} + \mathrm{SMM} + \mathrm{SMH} + \mathrm{SHL} + \mathrm{SHM} + \mathrm{SHH})/9$$

$$\mathrm{B} = (\mathrm{BLL} + \mathrm{BLM} + \mathrm{BLH} + \mathrm{BML} + \mathrm{BMM} + \mathrm{BMH} + \mathrm{BHL} + \mathrm{BHM} + \mathrm{BHH})/9$$

$$\mathrm{ME} = (S - M)$$

The investment INV factor is calculated by subtracting average returns of six low investment portfolios and average returns of six high investment portfolios.

$$\mathrm{L} = (\mathrm{SLL} + \mathrm{SLM} + \mathrm{SLH} + \mathrm{BLL} + \mathrm{BLM} + \mathrm{BLH})/6$$

$$\mathrm{H} = (\mathrm{SHL} + \mathrm{SHM} + \mathrm{SHH} + \mathrm{BHL} + \mathrm{BHM} + \mathrm{BHH})/6$$

$$\mathrm{INV} = (L - H)$$

The profitability factor (ROE) is attained in the same manner of INV factor as followings:

$$\mathrm{H} = (\mathrm{SLH} + \mathrm{SMH} + \mathrm{SHH} + \mathrm{BLH} + \mathrm{BMH} + \mathrm{BHH})/6$$

$$\mathrm{L} = (\mathrm{SLL} + \mathrm{SML} + \mathrm{SHL} + \mathrm{BLL} + \mathrm{BML} + \mathrm{BHL})/6$$

$$\mathrm{ROE} = (H - L)$$

The portfolios in FF5 factor model are constructed two-fold sort (represented as, 2x3). The RMW factor is calculated yearly and the stocks are ranked as per profitability each June. The NYSE breakpoints accepted as a reference to determine the RMW groups as %30 of Robust (R), %40 of Medium (M) and %30 of Weak (W). After that, the intersection of two size portfolios (created in FF3 model) and three profitability portfolios are taken to form six portfolios and generate RMW factor as seen formula below:

$$\mathrm{RMW} = (SR + BR)/2 - (SW + BW)/2$$

In FF5 factor model, the CMA factor is constructed similar to RMW factor so that it is calculated in the same manner. Next, the stocks are ranked as per investment

value on June each year. The top %30 is named Conservative (C), the %30 of the bottom is Agressive (A) and %40 of the middle is Medium (M). By taking the intersection of these with two size groups achieved six portfolios and constructed CMA factor as shown followings:

$$\text{CMA} = (SC + BC)/2 - (SA + BA)/2$$

In addition to all, SMB_5 is the size factor used in FF5 factor model. It is the average of three SMB factors achieved from the intersections of size with value, investment and profitability portfolios.

4. Findings

The main objective of this study is to compare the performance of new factor models and to determine the effective factors on average returns in Turkey.

Table 1 summarizes the descriptive statistics of the factors. It seems like the magnitude of size effect has doubt, because size premium (SMB, SMB_5 and ME) is considerably weak as well as illiquidity. On the other hand, the highest premium is attained by profitability but for ROE not for RMW. RMW premium is only 0.220 whereas it is 1.024 for ROE. Next, the market risk premium comes as the second highest premium of all and WML is the third one.

Three substantial inferences might be deducted from descriptive statistics. The calculation frequency, accounting data used to measure profitability and portfolio construction of profitability factor matter in new models. First, ROE factor is better to capture the average returns related profitability than RMW. While the profitability factor in FF5 (RMW factor) is 0.220, the ROE factor is 1.024 in the q-factor model. Second is about the momentum factor which is also constructed monthly similar to ROE factor, provides the third highest premium. That may indicate more on the importance of calculation frequency of factors. Third is about the investment factors in FF5 factor and q-factor model. The CMA premium is attained only 0.253 while INV factor is 0.546. So that recall the Hou, Xue and Zhang (2015) who emphasize the crucial importance on the construction of factors. Hou, Xue and Zhang (2015) asserted that there was a conditionality between profitability and investment thus the portfolios ought to be formed three-fold sort in order to control both effects. Table 2 reports the correlations among the factors.

Table 1: Descriptive Statistics

	MKT	SMB	HML	WML	ILLQ	SMB_5	CMA	RMW	ME	INV	ROE
Mean (%)	0.972	0.062	0.497	0.550	-0.174	0.166	0.253	0.220	0.116	0.546	1.024
Standard Err.	0.007	0.004	0.005	0.004	0.012	0.003	0.003	0.004	0.003	0.003	0.003
Median	0.006	-0.001	0.006	0.008	0.002	0.001	0.000	0.004	0.000	0.003	0.007
Minimum	-0.138	-0.119	-0.294	-0.131	-0.922	-0.104	-0.084	-0.096	-0.085	-0.093	-0.072
Maximum	0.160	0.209	0.184	0.103	0.342	0.154	0.156	0.152	0.091	0.173	0.078
Count	96	96	96	96	96	96	96	96	96	96	96

Table 2: Correlation Matrix of Factors

	MKT	SMB	HML	WML	ILLQ	SMB_5	CMA	RMW	ME	INV	ROE
MKT	1.000										
SMB	-0.045	1.000									
HML	-0.007	-0.631	1.000								
WML	-0.178	-0.019	-0.097	1.000							
ILLQ	-0.042	-0.168	0.275	-0.070	1.000						
SMB_5	-0.067	0.980	-0.503	-0.021	-0.147	1.000					
CMA	0.020	0.503	-0.393	0.012	0.286	0.456	1.000				
RMW	-0.020	-0.341	0.423	-0.311	0.250	-0.316	-0.066	1.000			
ME	-0.077	0.509	0.096	0.103	-0.017	0.612	0.019	-0.201	1.000		
INV	0.054	0.454	-0.363	-0.031	0.234	0.414	0.834	-0.060	0.052	1.000	
ROE	-0.287	-0.271	0.103	0.214	-0.122	-0.238	-0.266	0.120	0.077	-0.097	1.000

Fama and French (1995) showed BE/ME, profitability and investments are highly correlated (Fama and French, 2015: 4). In the light of this statement, high BE/ME stocks tend to high profitability and aggressive investment. However, the correlation between factors does not represent such relations in the analysis. The correlation among size factors (SMB, SMB_5 and ME) and investment factors (CMA and INV) are quite usual. Except for corresponding factors, no multicollinearity is detected among the others.

Table 3, 4, 5, 6, 7 shows the regression results of factor models. In tables, α represents intercept β, s, h, w, l, r, c, β_s, β_i and, β_r, are factor loadings. F, Adj. R^2, DW and White Test denote F statistics, adjusted R^2, Durbin-Watson statistics and White test statistics, respectively. The values below α represent the standard errors, the values below factor loadings are t-statistics and further the values below White test statistics are p-values.

Table 3: Fama-French Three Factor Model

$r-r_F$	α	β	s	h	F	Adj. R^2	DW	White Test
SL	0.012	0.801*	1.438*	-0.583***	80.822	0.715	1.749	74.468
	0.007	**11.832**	**6.794**	**-1.684**				**0.000**
SM	0.007	0.741*	1.117*	0.417*	96.296	0.750	2.012	12.448
	0.003	**14.340**	**9.768**	**4.588**				**0.189**
SH	0.008	0.759*	1.110*	0.529*	91.692	0.741	2.212	8.613
	0.004	**14.225**	**9.403**	**5.629**				**0.473**
BL	0.007	0.747*	0.016	-0.286*	83.238	0.721	2.109	22.205
	0.003	**13.344**	**0.142**	**-2.439**				**0.008**
BM	0.008	0.765*	0.305*	0.049	61.254	0.656	2.028	10.826
	0.004	**13.390**	**2.409**	**0.488**				**0.287**
BH	0.011	0.789*	0.344***	0.601***	36.984	0.531	1.776	71.566
	0.006	**12.043**	**1.832**	**1.977**				**0.000**

*, ** and *** denote the statistical significance at the of %1, %5 and %10 levels, respectively.

Table 4: Carhart Four Factor Model

$r-r_F$	α	β	s	h	w	F	Adj. R^2	DW	White Test
SL	0.016	0.746*	1.361*	-0.663**	-0.552	70.946	0.746	1.875	75.214
	0.007	**10.987**	**6.097**	**-2.345**	**-1.627**				**0.000**
SM	0.007	0.738*	1.112*	0.412*	-0.036	71.574	0.748	2.001	37.106
	0.003	**10.962**	**9.769**	**5.079**	**-0.261**				**0.001**
SH	0.009	0.739*	1.083*	0.501*	-0.198	72.042	0.749	2.235	31.516
	0.003	**13.332**	**9.093**	**4.604**	**-1.384**				**0.005**
BL	0.008	0.730*	-0.006	-0.309*	-0.164	64.722	0.728	2.113	36.514
	0.003	**13.209**	**-0.048**	**-2.558**	**-1.308**				**0.001**
BM	0.009	0.755	0.290	0.034	-0.104	46.140	0.655	2.011	50.100
	0.003	**0.063**	**0.125**	**0.104**	**0.168**				**0.000**
BH	0.014	0.737*	0.272	0.526**	-0.518	34.589	0.585	1.911	79.453
	0.005	**11.428**	**1.363**	**2.227**	**-1.658**				**0.000**
SL_{WML}	0.009	0.807*	1.117*	0.328*	-0.452*	87.610	0.784	2.299	25.614
	0.003	**15.316**	**7.628**	**2.985**	**-3.707**				**0.029**
SW_{WML}	0.005	0.759*	0.885*	0.354*	0.375**	48.464	0.666	2.028	34.639
	0.004	**11.993**	**5.233**	**2.868**	**2.111**				**0.002**
BL_{WML}	0.006	0.740*	0.187	0.097	-0.847	53.480	0.688	1.876	69.162
	0.005	**12.002**	**0.845**	**0.845**	**0.438**				**0.000**
BW_{WML}	0.012	0.788*	0.419*	0.070	0.324***	41.679	0.631	2.217	50.437
	0.004	**12.814**	**2.876**	**0.658**	**1.769**				**0.000**

*, ** and *** denote the statistical significance at the of %1, %5 and %10 levels, respectively.

In Table 3, F statistic presents the general significance of the model. All the coefficients have almost %1 significance level. White and Durbin-Watson test statistics are used to determine the presence of autocorrelation and heteroscedasticity. White test points out heteroscedasticity problem for SL, BL and BH regression models. Thus, the standard errors are corrected by Newey-West HAC and adjusted t-statistics are reported in the table.

In Table 4, alpha values, coefficients, F-values, adjusted R^2 values, Durbin-Watson and White test statistics are presented for Carhart four factor model. The coefficients for market, size and value are generally significant at 1% level. For momentum, they seem low especially for the intersection of size and value portfolios. On the other hand, they are found high for size and momentum portfolios. When we consider the F values, the significance of models is stable. In regression models, all t-statistics are corrected against autocorrelation and heteroscedasticity.

Table 5 presents the regression results for Pástor-Stambaugh model. The t-statistics are corrected owing to the heteroscedasticity in the models. The betas are found significant at 1% level. The coefficients are only significant for SIL and BIL portfolios used in the construction of illiquidity factor. The adjusted R^2 values range between 0.924 and 0.382. The average of adjusted R^2 values is calculated 0.692 and it implies the changes in dependent variable is 69% explained by the factors in the model. When adjusted R^2 values are compared with FF3 and C4 factor models, it is observed that all those values are close to each other.

Table 5: Pástor-Stambaugh Model

$r-r_F$	α	β	s	h	l	F	Adj. R^2	DW	White Test
SL	0.012	0.800*	1.438*	-0.573	-0.014	60.023	0.713	1.740	83.102
	0.007	**11.651**	**6.736**	**-1.507**	**-0.232**				**0.000**
SM	0.007	0.737*	1.118*	0.456*	-0.058***	75.315	0.757	2.020	15.904
	0.003	**14.461**	**9.923**	**4.967**	**-1.935**				**0.319**
SH	0.008	0.757*	1.111*	0.545*	-0.023	68.560	0.739	2.196	11.137
	0.004	**14.147**	**9.383**	**5.639**	**-0.734**				**0.675**
BL	0.007	0.744*	0.018	-0.255**	-0.045*	63.996	0.726	2.106	29.615
	0.003	**13.632**	**0.141**	**-2.170**	**-2.486**				**0.009**
BM	0.008	0.765*	0.305*	0.059	-0.014	45.581	0.652	2.013	22.362
	0.004	**13.302**	**2.400**	**0.569**	**-0.432**				**0.072**
BH	0.011	0.787*	0.344***	0.625***	-0.036	27.747	0.529	1.757	83.760
	0.006	**12.030**	**1.793**	**1.853**	**-0.641**				**0.000**
SIL	0.011	0.547*	1.557*	0.474**	-1.817*	293.22	0.924	2.422	62.372
	0.005	**5.433**	**4.704**	**2.075**	**-13.949**				**0.000**
SIH	0.008	0.775*	1.076*	0.448*	0.015	77.252	0.762	2.129	10.360
	0.003	**15.258**	**9.585**	**4.892**	**0.524**				**0.735**
BIL	0.005	0.834*	0.144	0.159	-0.071***	65.669	0.731	2.149	64.002
	0.004	**18.774**	**1.281**	**1.081**	**-1.948**				**0.000**
BIH	0.008	0.607*	0.625*	0.185	0.095	15.694	0.382	2.266	57.135
	0.005	**6.929**	**2.389**	**0.925**	**0.985**				**0.000**

*, ** and *** denote the statistical significance at the of %1, %5 and %10 levels, respectively.

Table 6: Fama-French Five Factor Model

$r-r_F$	α	β	s	h	r	c	F	Adj. R^2	DW	White Test
SL	0.010	0.805*	1.278*	-0.844*	0.212	0.347	44.208	0.694	1.777	87.985
	0.006	**10.437**	**7.686**	**-2.599**	**0.539**	**0.860**				**0.000**
SM	0.006	0.748*	1.134*	0.288*	-0.107	0.007	57.042	0.746	2.087	29.458
	0.003	**14.320**	**8.832**	**3.203**	**-1.018**	**0.056**				**0.079**
SH	0.007	0.759*	0.992*	0.422*	-0.120	0.274***	51.240	0.725	2.300	30.444
	0.004	**13.767**	**7.314**	**4.448**	**-1.079**	**1.935**				**0.063**
BL	0.007	0.743*	-0.028	-0.234*	-0.169	0.062	51.040	0.724	2.198	33.979
	0.003	**13.217**	**-0.239**	**-2.926**	**-1.360**	**0.448**				**0.026**
BM	0.007	0.758*	0.134	0.038	-0.060	0.313**	37.245	0.656	2.158	26.484
	0.004	**13.235**	**0.953**	**0.391**	**-0.523**	**2.128**				**0.150**
BH	0.011	0.789*	0.257***	0.498***	0.162	0.135	21.788	0.522	1.804	90.450
	0.005	**11.105**	**1.862**	**1.847**	**0.476**	**0.392**				**0.000**
SR	0.010	0.760*	1.151*	-0.001	0.121	0.808*	62.111	0.762	2.064	78.971
	0.004	**12.467**	**9.409**	**-0.002**	**0.533**	**3.498**				**0.000**
SW	0.007	0.739*	1.158*	0.025	-0.041	-0.462**	45.195	0.699	1.968	33.773
	0.004	**10.616**	**8.793**	**0.251**	**-0.365**	**-2.243**				**0.027**
BR	0.007	0.748*	0.153	0.040	-0.043	0.441**	34.894	0.640	2.070	36.867
	0.004	**10.185**	**0.965**	**0.409**	**-0.313**	**2.089**				**0.012**
BW	0.010	0.770*	0.146	0.015	0.119	-0.288	28.821	0.594	2.053	79.938
	0.004	**11.441**	**1.029**	**0.079**	**0.465**	**-1.197**				**0.000**
SC	0.004	0.807*	1.042*	0.414*	-0.335	0.28	51.148	0.725	2.056	52.051
	0.003	**12.223**	**8.142**	**3.934**	**-1.579**	**1.548**				**0.000**
SA	0.110	0.672*	0.938*	0.002	0.040	-0.227	24.753	0.555	1.970	46.922
	0.005	**9.787**	**4.455**	**0.025**	**0.310**	**-0.836**				**0.001**
BC	0.004	0.837*	0.220	0.184	0.186	0.072	18.578	0.480	1.698	89.879
	0.006	**9.314**	**1.320**	**0.902**	**0.511**	**0.202**				**0.000**
BA	0.010	0.769*	-0.142	-0.147***	-0.156	0.032	49.572	0.718	2.386	29.312
	0.003	**15.244**	**-1.151**	**-1.691**	**-1.532**	**0.250**				**0.081**

*, ** and *** denote the statistical significance at the of %1, %5 and %10 levels, respectively.

Table 6 shows the regression results of Fama-French five factor model. The beta coefficients are found significant at %1 level. The factor loadings for size, value, investment and profitability are not as significant as beta. White and Durbin-Watson test statistics exhibit the autocorrelation and heteroscedasticity in regression models, for that reason t-statistics are corrected and reported the corrected values in the table. The F statistic that presents the overall significance of the regression model, verify that the model is statistically significant. The average of adjusted R^2 values calculated nearly 66%.

Table 7: The q-factor Model

$r-r_F$	α	β	β_s	β_i	β_r	F	Adj. R^2	DW	White Test
SLL	0.014	0.678*	0.697*	0.342*	-0.749*	56.427	0.700	2.060	18.552
	0.004	**10.377**	**5.225**	**2.760**	**-5.955**				**0.182**
SLM	0.015	0.621*	0.834*	0.582*	-0.551*	34.978	0.588	1.838	40.540
	0.005	**9.229**	**3.425**	**2.854**	**-4.216**				**0.000**
SLH	0.014	0.637*	1.103*	0.445	0.364***	18.634	0.426	2.039	41.988
	0.006	**7.009**	**4.052**	**1.548**	**1.660**				**0.001**
SML	0.016	0.761*	0.775*	0.341	-0.956*	29.520	0.545	2.263	41.236
	0.005	**8.032**	**2.780**	**0.871**	**-3.643**				**0.001**
SMM	0.012	0.674*	0.770*	0.123	-0.451*	32.624	0.571	2.258	42.066
	0.004	**9.297**	**3.840**	**0.471**	**-3.316**				**0.000**
SMH	0.005	0.781*	0.648*	0.153	0.224	23.658	0.488	1.918	37.920
	0.005	**8.976**	**2.948**	**0.528**	**1.060**				**0.000**
SHL	0.013	0.768*	0.598*	0.030	-0.915*	37.711	0.607	2.248	36.715
	0.004	**9.103**	**2.429**	**0.094**	**-5.956**				**0.000**
SHM	0.011	0.483*	0.740*	-0.088	-0.386*	12.628	0.328	1.689	29.702
	0.006	**5.019**	**3.555**	**-0.303**	**-2.488**				**0.008**
SHH	0.010	0.699*	0.789***	-0.273	0.117	13.719	0.348	2.119	68.853
	0.005	**8.961**	**1.886**	**-0.535**	**0.540**				**0.000**
BLL	0.007	0.734*	-0.104	0.366	-0.681*	35.911	0.595	1.800	30.635
	0.005	**8.551**	**-0.579**	**1.682*** **	**-5.143**				**0.006**
BLM	0.019	0.593*	-1.102	2.162***	-0.543***	19.610	0.439	1.962	93.935
	0.008	**4.948**	**-1.444**	**1.767**	**-1.728**				**0.000**
BLH	0.011	0.682*	0.139	0.362*	-0.176	33.640	0.578	2.112	21.027
	0.004	**10.124**	**1.015**	**2.828**	**-1.360**				**0.100**
BML	0.007	0.597*	-0.002	-0.107	-0.916*	27.659	0.528	1.780	7.002
	0.005	**6.965**	**-0.012**	**-0.662**	**-5.549**				**0.934**
BMM	0.010	0.727*	-0.001	0.217***	-0.087	36.200	0.597	1.966	12.615
	0.004	**11.061**	**-0.010**	**1.737**	**-0.690**				**0.557**
BMH	0.010	0.773*	-0.408***	0.065	0.252	23.726	0.488	2.139	34.339
	0.002	**10.962**	**-1.758**	**0.527**	**0.867**				**0.001**
BHL	0.006	0.732*	0.210	-0.253	-0.896*	28.199	0.533	2.058	36.304
	0.006	**8.537**	**0.639**	**-0.862**	**-4.033**				**0.000**
BHM	0.029	0.564*	-0.672	-1.120***	-0.359	10.931	0.294	1.688	80.450
	0.012	**4.453**	**-1.322**	**-1.691**	**-1.595**				**0.000**
BHH	0.012	0.699*	-0.097	-0.032	0.102	31.306	0.560	1.986	24.107
	0.003	**9.981**	**-0.694**	**-0.206**	**0.845**				**0.044**

*, ** and *** denote the statistical significance at the of %1, %5 and %10 levels, respectively.

The regression results of the q-factor model are tabulated in Table 7. Similar to previous models, the beta coefficients are found significant at 1% level. F statistics have proved the overall significance of the model. The

significance of size, investment and profitability factor loadings are obtained higher vis-à-vis Fama-French five factor model. That may stem from the distinction of two models in portfolio construction and factor calculation. Besides that, it could be counted as the preliminary evidence that new models are sensitive to the way of factors calculated and constructed. In order to obtain further evidence, the comparison analysis is run for the models.

Table 8: Comparison of Factor Models as per Maximum Squared Sharpe Ratio

Factor Models	Sh^2 (f)
Fama-French Three Factor Model	0.0481
Carhart Four Factor Model	0.0942
Pastor-Stambaugh Four Factor Model	0.0498
Fama- French Five Factor Model	0.0626
q-factor Model	0.1697

The performance of the models is evaluated as per the maximum squared Sharpe ratio and shown all in Table 8. In order to compare and interpret the values, we should keep in mind that the higher the Sharpe ratio is, the better is the performance of the model. When we rank the metrics in ascending order, the q-factor model comes first and then Carhart four factor model, Fama-French five factor model, Pástor-Stambaugh factor model and Fama-French three factor model, respectively. The maximum squared Sharpe ratio is almost 0.063 for Fama-French five factor model whereas it is nearly 0.170 for the q-factor model. The difference between them is about 0.107 and which matters a lot in the comparison of the values.

In light of all results, it is concluded that the q-factor model outperforms of all. This result is in line with Hou, Xue and Zhang (2017). In analysis, the q-factor model is found far better to capture the unexplained returns related to profitability and investment in comparison to Fama-French five factor model. In the study of Kang, Kang and Kim (2015), it is emphasized how important is to construct the profitability factor based on quarterly data. For this study, the findings exhibit the success of ROE premium which is found 1.024 whereas RMW is 0.220 monthly. In addition to that, the highest premium is attained for ROE profitability similar to Kang, Kang and Kim (2015). Since the performance of Carhart four factor model comes second, it is contemplated the effect of calculation frequency of factors. The momentum and profitability factors are calculated monthly so they may capture the variation of cross-section of returns better. Besides that, the outperformance of the q-factor model in comparison with Fama-French five factor model strengthens the findings.

5. Conclusion

In this study, the comparative performances of new factor models are primarily investigated and it is further searched whether the q-factor model performs better than Fama-French five factor model in Turkey. The sample covers all stocks in BIST Main market. The analysis is held for eight years from 2009 to 2017 due to data unavailability of earnings announcement dates. The time series regressions are used in factor models. The main comparison metric is taken as the maximum squared Sharpe ratio by following Barillas and Shanken (2017).

The results showed that the q-factor model performs better than FF5 factor model as well as FF3, C4 and PS factor models. In other words, the common variation of stock returns is relatively better captured by the q-factor model. Despite the q-factor model and FF5 factor model include almost the same factors or they are closely related, the evidences present that the portfolio construction method and factor calculations are sensitive to the performances of models in Turkey.

The market, size, value, momentum, liquidity, profitability and investments are ad hoc variables relating average stock returns and the profitability has the highest explanatory power in explanation of average returns. The results obtained from analysis seem striking in some aspects. In FF5 factor model, the profitability is calculated by using operating income item on yearly basis while the q-factor model uses the income from continuing operations item on monthly basis. Since the factor premiums differentiate among the models, both the selection of accounting variable and the calculation frequency could have an effect on factors that help to better capture the common variation of the returns. The maximum squared Sharpe ratio produces the highest value for the q-factor model and right after comes C4 factor model. These models consist of monthly constructed momentum and profitability factors. That may signify the frequency of portfolio construction matters for the performance of models.

In other words, the portfolio construction frequency could be crucial in capturing the unexplained returns for the factor models.

For future research, it is considered that the value factor could be constructed monthly or quarterly base. Since the momentum plays a crucial role on returns, further to investigate how it might affect the performance of new models, the momentum factor could be included in FF5 and the q-factor model.

ENDNOTES

1 Look-ahead bias born in analysis when the accounting data is used before it was announced to the investors. In other words, unannounced accounting data usage in the analysis as if the investor already had that information.

2 The selection bias is a kind of sampling error that occurs in determining the sample of analysis. In case, the firms that went bankruptcy were excluded from sample that would have caused a spurious view of the sample as if only good firms were performing.

3 For the inference of the formulation, see page 6 the study of the Barillas and Shanken (2017).

4 The eighteen portfolios are abbreviated as SLL, SLM, SLH, SML, SMM, SMH, SHL, SHM, SHH, BLL, BLM, BLH, BML, BMM, BMH, BHL, BHM, BHH. For example, SLL represents the portfolio that consists of small size, low investment and low profitability stocks.

REFERENCES

Acaravci, S. K., & Karaomer, Y. (2017). Fama French five factor model: evidence from Turkey. *International Journal of Economics and Financial Issues*, 7(6), 130-137.

Aksu, M. H. & Onder, T. (2003). The size and book-to-market effects and their role as risk proxies in the Istanbul stock Exchange. (*Koc University, Graduate School of Business, Working Paper No. 2000-04). EFMA 2000 Athens.*

Arıoğlu, E., & Canbaş, S. (2008). Testing the three factor model of Fama and French: Evidence from Turkey. *Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 17(3), 79-92.

Atakan, T., & Gökbulut, R. İ. (2010). Üç faktörlü varlık fiyatlandırma nodelinin İstanbul menkul kıymetler borsası'nda uygulanabilirliğinin panel veri analizi ile test edilmesi. *Muhasebe ve Finans Dergisi*, 45, 180-189.

Amihud, Y. (2002). Illiquidity and stock returns: Cross-section and time-series evidence, *Journal of Financial Markets*, 5(1), 31–56.

Aras, G., Çam, I., Zavalsız, B., & Keskin, S. (2018). Fama-French çok faktör varlık fiyatlama modellerinin performanslarının karşılaştırılması: Borsa *İstanbul üzerine bir uygulama. Istanbul University Journal of the School of Business Administration*, 47(2), 183-207.

Barillas, F., & Shanken, J. (2017). Which alpha?. *The Review of Financial Studies*, 30(4), 1316-1338.

Carhart, M. M. (1997). On persistence in mutual fund performance. *The Journal of Finance*, 52(1), 57-82.

Cooper, I., & Maio, P. (2019). New evidence on conditional factor models. *Journal of Financial and Quantitative Analysis*, 54(5), 1975-2016.

Durbin, J., & Watson, G. S. (1971). Testing for serial correlation in least squares regression. III. *Biometrika*, 58(1), 1-19.

Erdinç, Y. (2017). Comparison of CAPM, three-factor Fama-French model and five-factor Fama-French model for the Turkish stock market. *Financial Management from an Emerging Market Perspective*, 69-92.

Fabozzi, F. J., Huang, D., & Wang, J. (2016). What difference do new factor models make in portfolio allocation?. Available at SSRN 2752822. https://ssrn.com/abstract=2752822, (09.01.2018).

Fama, E. F., & French, K. R. (1992). The cross section of expected stock returns. *The Journal of Finance*, 47(2), 427-465.

Fama, E. F., & French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, 33(1), 3-56.

Fama, E. F., & French, K. R. (1995). Size and book to market factors in earnings and returns. *The Journal of Finance*, 50(1), 131-155.

Fama, E. F., & French, K. R. (1996). Multifactor explanations of asset pricing anomalies. *The Journal of Finance*, 51(1), 55-84.

Fama, E. F., & French, K. R. (2015). A five-factor asset pricing model. *Journal of Financial Economics*, 116(1), 1-22.

Fama, E. F., & French, K. R. (2017). International tests of a five-factor asset pricing model. *Journal of Financial Economics*, 123(3), 441-463.

Gökgöz, F. (2008). Üç faktörlü varlık fiyatlandırma modelinin İstanbul menkul kıymetler borsasında uygulanabilirliği. *Ankara Üniversitesi SBF Dergisi*. 63 (2), 44-64.

Güzeldere, H., & Sarıoğlu, S. E. (2012). Varlik fiyatlamada Fama-French üç faktörlü model'in geçerliliği: İMKB üzerine bir araştirma. *Business and Economics Research Journal*, 3 (2), 1-19.

Hou, K., Xue, C., & Zhang, L. (2015). Digesting anomalies: An investment approach. *The Review of Financial Studies*, 28(3), 650-705.

Hou, K., & Xue, C. (2017). A comparison of new factor models. *Fisher College of Business Working Paper*, (2015-03), 05.

Jegadeesh, N., & Titman, S. (1993). Returns to buying winners and selling losers: Implications for stock market efficiency. *The Journal of Finance*, 48(1), 65-91.

Kang, H., Kang, J., & Kim, W. (2016). A comparison of new factor models in the Korean stock market. 한국재무학회 학술대회, 1894-1922.

http://www.korfin.org/korfin_file/forum/2016co-conf19-3.pdf, (26.11.2017)

Koh, W. H. (2015). Essays on the cross-section of returns (Doctoral dissertation, The Ohio State University).

Newey, W. K., & West, K. D. (1987). A simple, positive semi-definite, heteroskedasticity and autocorrelation consistent covariance matrix. *Econometrica*, 55 (3), 703-708.

Özkan, N . (2019). q-Faktör Modelinin Borsa İstanbul'da geçerliliğinin test edilmesi. *Eskişehir Osmangazi Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 14(2), 441-456 .

Pástor, Ľ., & Stambaugh, R. F. (2003). Liquidity risk and expected stock returns. *Journal of Political Economy*, 111(3), 642-685.

Unlu, U. (2013). Evidence to support multifactor asset pricing models: The case of the Istanbul stock exchange. *Asian Journal of Finance & Accounting*, 5(1), 197.

White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica*, 48(4), 817-838.

EGE AKADEMİK BAKIŞ / *EGE ACADEMIC REVIEW*

Cilt 20 • Sayı 3 • Temmuz 2020
SS. 209 / 220
Doi: --
Başvuru Tarihi: 29.03.2020 • Kabul Tarihi: 26.07.2020

The Tip Perception of the Hotel Employees: Wage or Reward?

Tuğba PALA[1] *https://orcid.org/0000-0001-8346-9901*

ABSTRACT

The "tip" phenomenon attracts the attention of various disciplines such as economics, sociology and psychology while it is a voluntary payment added on the service fee. A vast majority of the research on tipping examine the tipping behavior and motivation of the customers in the light of customer responses. There is a limited number of studies examining the "tip" phenomenon from an employee perspective. The aim of this study is to determine the tipping perceptions and beliefs of the employees who communicate face-to-face with customers and work in the hotel industry in Turkey. Our study reveals the meaning of tipping for hotel employees, the dynamics that determine the customers' tipping behavior and the strategies that employees use to get a tip, considering the experience of the employees who worked/are working in a five-star hotel.

Keywords: Tip, Hotel employee, Tipping behavior, Reward, Wage.

Jel Codes: J00, L83, M10

Introduction

Although tourism industry plays and important role in the economy (Isik et al., 2017), labor in the tourism sector is generally known as with low wages and high working hours. Those who work in the tourism sector mostly live with minimum wages and especially tips. The low wages of tourism sector cause employees need tip for a living. Therefore, tipping for tourism workers is of great importance in the tourism sector.

Tipping is usually a voluntary payment to the service employees made by the individual purchasing the service. While it is made on a volunteer basis and usually given in exchange for personal service, it is perceived as a sign of satisfaction and/or a special thanking. However, the increasing role of the tip in the labor economics shows that it has a meaning far beyond a special gift given in return to personal satisfaction. Tipping has an economically important place considering its position in the relationship between service recipient-employee-employer. Especially in the USA, it is estimated that approximately $47 billion of tips are given to restaurant employees annually (Azar, 2011). Tips are mostly given to employees within the service sector such as waiters, taxi drivers, tour guides, doormen, food deliverymen, parking valets and bartenders (Star, 1988). In Turkey, tipping is a common behavior, especially in the hotel industry.

Studies on tipping have been the subject of different disciplines such as marketing (Tse, 2003), sociology and social psychology (Azar, 2004; Lynn, 1997), economics (Azar, 2003; Ferguson et. al., 2017) and management (Curtis et. al., 2009). When the literature is examined, it is seen that studies generally examined why customers tip (Azar, 2004; 2010; Lynn, 2015; 2016; Lynn & McCall, 2016;), tipping behavior and factors affecting the amount of tip (tip size) (Parett, 2015; Lynn, Adams & Douglas, 2008; Seiter, 2007; Bujisic, et. al., 2013; Curtis et. al. 2009; Jacob et. al., 2010; Seiter et. al., 2018; Gueguen & Jacob, 2014). These studies investigate the situations in which customers tip and factors affecting their tipping behaviors. There are a limited number of studies that discuss the issue from the viewpoint of employees. In this study, it is aimed to investigate the perception of employees about tipping considering their experiences. Moreover, the study discusses how employees perceive the tip, in which cases they get a

[1] **Araş. Gör. Dr., Mersin Üniversitesi, Turizm Fakültesi, Turizm İşletmeciliği Bölümü, tugbapala82@gmail.com**

tip and which strategies they use to get the tip. The results obtained from this study will contribute to the hospitality literature by revealing what the tip means to hotel employee. Although there are some studies examining the meaning of the tip, there is still a gap understanding what tip means for hotel employee in the hospitality literature. Moreover, as a practical implication for hotel managers, findings of the study can be an advisor to solve problems about tipping and tipping systems (individual or pooled tipping).

Literature Review

Tipping behavior has a complex structure consisting of different and various motivating factors (Lynn & Graves, 1996). When the literature on tipping is examined, a number of studies are found related to what motivates the customers to tip. "Why people are tipping" is the most important question while investigating the situations in which customers willing to tip (Azar, 2010a). Studies conducted to examine the tipping motivation of customers show that customers do not tip strategically in order to receive better service in the future, it is found that their motivation to tip is only social and psychological (Azar, 2010a). These social motivations are to show gratitude, to follow the social norms and to make a contribution to the tip income of the employee (Azar, 2010b). Due to these three favorable reasons, customers provide positive psychological benefits. Negative consequences that occur when we don't tip, which are within other tipping reasons, may affect our motivation to tip less. Among these reasons; getting rid of the feeling of shame and guilt is a more important motivation than avoiding bad service in the future or being scolded by the employee. These results show that psychological and social motivations are more determinative in giving tips. Accordingly, Lynn & McCall (2016) wondered why we tip more and they found that the bill size is the most important factor determining the amount of tip as a result of the meta-analysis they conducted to investigate why people tip and which factors affect their tipping decisions. The factors that determine the amount of tip after bill size are; server's attractiveness, server's friendliness and the customer's mood during the service encounter (Lynn & McCall, 2016). As it is seen, the studies are about how the quality of service is evaluated from the perspective of the customer and which factors the customers attach importance to when giving tip or determining the amount of tip.

Studies that examine the tipping behavior and the factors that affect the amount of the tip generally focus on the appearance or the behaviors of the server. In studies discussing whether the appearance enhances the tip or not show that beauty increases the amount of the tip (Parret, 2015), well made-up women get more tips from male customers (Jacob et al, 2010), waitresses wearing red get more tips from male customers based on the determination that red color makes women more attractive to men in the previous studies (Gueguen & Jacob, 2014). Considering the studies investigating whether the employee behaviors affect tipping or not, it has been asserted that compliment (Seiter, 2007), real smile (Bujisic, Wu, Matilla & Bilgihan, 2013), giving the remaining food packaged by the waiter to the customer (Seiter & Weger, 2018) increase the tipping. Nevertheless, even music playing in the restaurant can be effective in tipping. For example, prosocial lyrics of a song can give a positive effect on tipping by enabling customers to empathize (Jacob, Guegen & Bolbry, 2010). In addition, it is claimed that the tip is given for reasons such as contributing to the low wages of the employees (Crespi, 1947), showing the status/power, being a gift given to the employee by the customer (Shamir, 1984).

As noted earlier, while most of the studies on tipping examined the phenomenon from the customer's perspective, there are a limited number of studies that take the opinions of employees into account. Tipping can be an effective way to establish a wage-cost balance and management can sometimes provide an indirect control through tip over employees who communicate face-to-face with the customer (Ogbonna & Harris, 2002). However, employees prefer getting tip and customers like tipping while tipping has a positive effect of employees' affactive state and customers see the tip as an expression of satisfaction (Saunders, 2015; Mulinari, 2016). As for the employees' tipping system preference, employees see the pooled system as the most unfair, worst system in terms of distributional justice and they consider the tipping system that contains service charge as the fairest system (Namasivayam & Upneja, 2008). Studies dealing with the topic of tipping from the perspective of the employees are about how employees consider the tip or which tipping system they prefer. Based on the experience of the employees, there is no study that deals with all aspects of how employees perceive the tip, why customers tip and which strategies employees prefer to get tips. Therefore, the purpose of this study is to try to understand what the tip concept means for the employees especially in the hotel industry. For this purpose, the research questions that will guide the

study are: (1) How do employees perceive the tip? (2) What consequences does employee perception have in practice concerning tipping? (3) When do customers tip according to employees? (4) What are the strategies that employees develop concerning tipping?

1. Method

Providing a deeper examination of the tip phenomenon, which has a complex structure, is only possible with qualitative research. Exploratory researches are the researches that the researcher does not know much about the subject and wants to examine the subject in depth (Altunışık et al., 2012). In-depth semi-structured interviews are made with 31 hotel employees worked in front desk and/or restaurant departments in various tourism enterprises in Turkey. In this study, employees who have seen different tipping systems were asked to be included, since it is important that employees have different experiences about tipping; therefore, especially participants who have at least two years of experience in total in more than two enterprises were included. In addition, participants, who worked at a five-star, not all-inclusive (half pension or full pension) hotels in various tourism regions (Antalya, Bodrum, Marmaris) and who have seen different business styles, were selected. The snowball sampling method was used in sample selection. In addition to difficulty to reach people willing to interview, the fact that the limit of individuals who are members of the universe is not fully known is the reason for choosing this method (Patton, 2005). Although all the interviewees worked in different departments of the hotels, 5 participants worked also in restaurants in addition to their experiences. The interviews were made face to face between May 2019 and October 2019. The interviewees have working experiences between 2 and 10 years. Their ages range from 20 to 32. The length of these interviews is between 25 and 45 minutes. Interviews were recorded with the permission of the participants and these interviews were transcribed verbatim directly after the interview. These records consist of a total of 74 pages. Transcripts related to the interviews were reviewed by the author many times and subjected to content analysis. To ensure the validity and reliability of the analysis results, the qualitative research technique was used and the data were analyzed and coded independently by an accomplished scholar who follows the literature well. By comparing the codes coming from the expert with the codes made by the author, a consensus was reached between the codes.

Of the 31 participants in this study, 21 participants are male and 10 participants are female hotel employees. Although they have worked in different departments in the five-star hotels they have worked before, 10 participants work in the front office department of the hotel, 21 participants work in the restaurant department of the hotel. In addition, among participants, one of them is the front desk chief and two of them are F&B chief (1 restaurant chief and 1 bar chief). In order to avoid any confusion, the quotations in which we include the direct sentences of the participants, only the name of the last position of the employee is given.

2. Findings

Findings obtained as a result of the interviews; themes were gathered under what the tip is in perspective of employees, employees' opinions about when customers tip and the strategies formed by the employees to get a tip. Under these main subjects, the feelings, thoughts and experiences of the employees with their own sentences will be included and their perspective on the tip will be detailed.

2.1. Tip: Wage? or Reward?

The tip, derived from the Persian word "bahş" and settled into the Turkish language, means to bestow, give gratuitously. According to TDK (Turkish Language Association), tip means "extra money apart from the fee paid for a service". In English, according to the Oxford dictionary, tip means "extra money; a small amount of extra money you give to someone serving you". In the 16th century, in the UK, it is claimed that the tip was first introduced by throwing money into coffee cups written 'to ensure promptitude (tip)' to get faster service in 'cafes or bars' (Segrave, 2009). Origin of the word and cultural differences also show that the tip is not a simple phenomenon with a fixed reference. On the one hand, tipping is seen as a tool that expresses the satisfaction of the giver or a reward; on the other hand, it is considered as a fee in return of the service, a wage for the labor (Mulinari, 2016). In a similar vein, the findings of this study show that employees consider the tip as a wage and customers consider it as a reward. Also, this study emphasizes the misperception of considering the tip as a reward. Especially in our language and culture, understanding the "tip" word as the privilege of granting may be the reason why employees insistently remark the tip as part of the wage they deserve. This difference in perception can become quite evident considering the perception of tipping between USA and Turkey. In the light of the

findings obtained from the participants, it can be said that in the USA, tipping is interpreted as an essential part of the wages of the employees, but in Turkey, it is accepted as a magnanimity of the customer. Therefore, almost all of the participants stated that when they received their first tip, they were embarrassed but then got used to it. For example, Participant 5 expresses this situation as follows:

When I first got a tip, I thought why this guy gives me money. I questioned whether I need this man's money. I felt it when I first got it. Now I think of what to do to get more money from him (Participant 5, male, waiter).

The following statements of Participant 9 also confirm the differences between societies of US and Turkey regarding the perception of tip:

In fact, I am more embarrassed when getting a tip from the Turks. We speak the same language, we are closer, more sincere with them (Participant 9, female, barmaid).

A group of employees stated that they felt embarrassed while getting a tip despite all their experience:

I'm very embarrassed when I wait in front of a person, because I feel like I'm waiting for the money (Participant 11, male, bellboy).

Of course, you will be embarrassed. Someone is passing something into your hand. Even if I work much longer, I can't look at the money in my palm. I can't look at it whether it's fake, 10 lira or 100 lira. I throw it into my pocket before looking at it, after that, I look at it (Participant, 12, male, bellboy).

We can say that the question of what a tip is has a direct connection with the motivation of the tipping; however, the customers and the employees getting tip don't have the same opinion with regard to tipping. Mulinari (2016) also suggested that while employees see the tip as part of their income, customers consider the tip as a reward for promoting good service after evaluating the service.

2.1.1. Wage

Many of the participants stated that they consider the tip as; a return of their work, a fee they deserved, money received for their efforts, the cost of extra service and extra earning. The statement of the participants, who see the tip as a fee, is as follows:

They give you the price for the extra service you do. They pay the fee you deserve. So, now the more you care about the guest, the more you please the guest, the guest returns the favor. But it has to be a conscious customer. There are also customers who don't care at all, I've also heard customers saying that they already get their salary, why do we pay more for this? (Participant 4, female, waitress)

You don't get this (tip) for free, you deserve it. Customers should make you feel like you have the right to get it just like your salary. For example, the tip is his/her right to get like people getting their salary, he/she served, this has to be its exchange, customers should give this feeling (Participant 13, male, receptionist).

Due to the nature of service, it is difficult for businesses to control the service encounter and evaluate the service in the works that are communicated face to face with the customer (Shamir, 1984; Parasuramann, 1988). Therefore, the tip is thought to be used by the customer to provide this control and service quality (Bodvarsson & Gibson, 1994; Azar, 2009). However, Lynn & McCall (2000) stated that there is a weak relationship between service quality and tip. This control mechanism may not always improve the service quality. The responsibility of the employer and the business towards the customer can also be transferred to the employee through this mechanism. Whatever the reason for the dissatisfaction of the customer, this responsibility is placed on the shoulders of the employee and the employee pays the price of the dissatisfaction by getting little amount of tip or not getting any tip.

The management's use as controlling

Enterprises use the tip to establish a wage-cost balance in order to increase their profitability and provide employee control in this way (Ogbonna & Harris, 2002). The increase in the monthly income of the hotel employees working with low salaries depends on the tip. Employees try to satisfy customers while trying to get more tips to increase their income. In this case, enterprises aim for a good service delivery without the burden of salary increases or additional fees or controlling service encounters. This indicates that businesses use the tip to control employee performance. Participant 27 (female, receptionist) states this situation as follows:

You get a higher fee for the service you provide. You look, I do it somehow better, they give me more money. You think they'll give you more if you do better.

The statement of another participant is as follows:

[…] our tip box has been opened weekly. If someone scored 1,500-2000 TL tip that week and you have scored 500 TL, a race starts and for this reason, you are under psychological pressure. There was a ranking among the tippers. I was feeling bad seeing my name below. So, the tip is good for you to make money. You get greedy, you want to put more money into the tip box (Participant 12, male, bellboy).

Participants stated that they work more enthusiastically when they get a tip, and they made more efforts to satisfy the guests who tip. Participant 30 said that they serve to each customer up to standard, but she told how the service delivery changes when they get tip:

We actually have standard service. I should not go out of that service, but when someone gives a tip, you are beyond that service. You want to make a gesture. I think the person who says I don't get out of that service is lying (Participant 30, female, waitress).

Tipping can also be used as a competition tool, not only by the management but also by the customer, to have an impact on the employee. Another participant expresses this situation with the following words:

We had a regular customer. Directly after sitting at the table, the woman was putting 50 TL on the table As soon as you see the money while working, you start to move up and down. She was doing something like this. She was putting something on the money so that someone doesn't come and get it right away. I guess, she thought that if someone comes and gets the money right away, then no one will give special attention to her. By putting the money there, she makes everyone pay attention to her. When money is there, everyone starts to pay attention to her, everyone asks if she needs something. Finally, when leaving the table, the woman was choosing a waiter/waitress, and giving the money to him/her (Participant, 21, male, waiter).

Exploitation tool

Ogbonna & Harris (2002) stated that some service employees are dissatisfied with the tip system because they think the company policies are exploitative. Similarly, the participants, who consider the tip as an exploitation tool and an instrument used by the employers to keep the salaries low, stated:

We can't really get recompense for our work. The business people and managers think that employees somehow get tips, so they will work even if we give them a low salary. Inevitably, we are dependent upon tips (Participant 3, male, receptionist).

We get the minimum wage. All waiters/waitresses work for the tip. They don't care about their salary. They just think about their tips whether it's 30 TL or 50 TL. For example, my first tip was twice my salary (Participant 4, male, waiter).

In addition, the participants stated that customers tip before they get the service with intent to guarantee special attention to themselves. In this way, customers who give pre-service tips try to compel the employees to take more care of themselves.

When the customer tips before the service, I immediately feel strange from his/her. He/she just wants me to show interest in him/her. I am responsible for 8 tables at the restaurant. He/she only wants me to serve him/her after giving 200 TL. Direct bribe! (Participant 14, male, waiter)

It is a problem that we especially encounter with the local tourists. He/she comes for a 10-day holiday, pays x amount of money, then he/she thinks that he/she bought all the facilities and staff of the hotel because he/she paid x amount of money. He/she pays 10 Euros right after the arrival. Then he/she gets 1000 Euro-worth service from me. He/she presses me into service, he/she definitely wants something wherever he/she sees me. The reason is that he/she gave me 10 Euro. He/she wants to get his/her money's worth (Participant 3, male, receptionist).

2.1.2. Reward

Azar (2009) and Lynn & McCall (2000) assert that the tip is a reward given by customers to promote service quality. Mulinari (2016) argues that there is an important difference between the perspectives of customers and employees regarding the question of whether the tip is a reward or wage. He suggests that the tip is an award for the customers to show their satisfaction, and it is a part of their wages for the employees. While customer-focused studies consider the tip as a reward, in this employee-focused study, it is seen that participants consider the tip as part of their salary which is given in return for their labor. From this point of view, while tipping means making an extra contribution to the cost of the service for the customers, no tip means that the payment that they deserve is not fully paid for the employees. Also, Saunders' (2015) study, which shows that the fact that when employees receive more tips than they expect, this does not affect their affactive state, but when they get less than what they expect, then their emotional state will be affected negatively, supports this finding. As a result of the findings ob-

tained from the participants, the reason why the tip cannot be perceived as a reward by the employees can be grouped under two headings. These are; problems caused by the perception of the tip as a reward and employees' problems related to the tipping systems applied.

Problems caused by the perception of the tip as a reward

Considering tip as a result of customer's goodwill and magnanimity, but not as the receiving the recompense for employee's labor, causes some problems to arise. Since this point of view is based on asymmetry between the employee and the customer, it may cause some situations that customers assume to be entitled and employees are not satisfied. This study presents two of the most common situations for employees; harassment and the effort of the customer to exert superiority over the employee.

Two participants stated that some of the customers could use the tip maliciously as a harassment tool:

For example, I had a guest, she was quite old, she was in her 50s. She was old to me. While tipping, she was always saying "I wish I would be younger. She would tip me for this reason (Participant 17, male, waiter).

I was a stewardess where I first worked. I was not serving personally to the customers and I was telling it to them. I didn't know the waitering. The customer insistently called me to take care of him. He said to me "Let me give you 5 dollars and stay with me for 5 minutes". There were such guests. That year I was so dissatisfied with my job. I cried and I told that I would leave the job to the manager. Then, the F&B manager spoke to the guest, who did the same to my other co-workers. Because, as the stewardesses, they gave us very short skirts and we were wearing high heels (Participant 18, female, waitress).

Participants often identified tipping with customer's effort to exert superiority over the employee. Employees attribute importance to the way the tip is given, because it is considered as an indicator of the perception of the tip. While the tip that given to the employee by thanking as a result of the service satisfies the employees, the other styles of tipping are found embarrassing by the employees. Many of the participants expressed their opinion on this situation. Here are a few expressions that are thought to stunning:

There is a tip for a job you do in a friendly way. There is also tipping by showing that I am superior to you. The satisfaction level for both styles is different. Even if someone gives you a very high amount of tip, for example, 100 Euros, you say that he/she would have not given that tip by remembering it badly. But a friendly given 5 Euro can change everything. So, money is not everything, money does not provide you the job satisfaction, but the behaviors of people do. I think the tip should be given by making you feel like you deserved it (Participant 13, male, bellboy).

Some people are embarrassed when reaching the tip up to you. Sometimes even some customers give a high amount of tip, they give it by thinking that's not enough and some other customers just throw it onto the tray. Some customers react like "come on, take it!". And customers who consider the tip as a favor usually treat us like so to speak "I gave you 50 TL, so you'll be like a dog, you will do what I want and you will always give priority to my wants" (Participant 31, female, bar chief).

Some of them have very harsh temperament. He/she give the tip as if he/she gives it to a beggar. He/she doesn't even look at your face. Actually, they shouldn't hurt me, should be smiling and give it by making me feel that I don't need it (Participant 18, female, waitress).

Tipping systems and problems encountered

There is a wide variety of tipping systems in businesses around the world. However, in light of the data obtained from the experience of the participants, we mainly note two types of tipping systems: individual and pooled tipping (Namasivayan & Upneja, 2008). While individual tipping means that employees will have their own tips, pooled tipping is the collection of all the tips in one place and the distribution of them to the employees according to the distribution system of the enterprise. Even though individual tipping doesn't cause a fairness problem, it causes difficulties on the distribution of shifts with higher tips, the selection of the employee that serves to a customer who gives a high amount of tip or willingness to work in the department with more tips. However, pooled tipping doesn't always satisfy the employees in the process of sharing the collected tips. All the participants, including the employees who consider the tip as an earned income, emphasized that the way the tip is given or how it is shared is very important.

Almost all of the participants stated that they have worked in very different systems and experienced both main tipping systems. The number of participants who agree that the pooled tipping system will be better is slightly more than those who prefer individual tipping. The reasons for the participants who stated that the

individual tipping system would be more successful are as follows:

I get the highest amount of tip, but my friend does nothing. How can I share my earning with him/her? I think it would be unfair (Participant 21, male, waiter)

For example, we had a manager. He was just playing backgammon, standing up and not doing anything. During the tip sharing, his sharing rate was ten and mine was 6. I was feeling offended. Naturally, you want your due and if we work there we should have a fair sharing rate accordingly (Participant 2, male, waiter)

Although, in their study, Namasivayam & Upneja (2008) stated that American employees consider the pool system as the most unfair and worst system in terms of distributional justice, employees working in Turkey and most of the participants stated that pooled tipping system is fair. Participants, who think that the pooled tipping system is fair, stated:

When there is no pooled tipping system, there is definitely a fight or a discussion between the staff. Besides, if the tables you serve is better than the others, waiters/waitresses want to serve these tables. This causes some problems. If there is a pooled tipping system, then employees trust themselves, trust their friends. And also at the reception, there is the night shift, at the night shift, there is no entrance or exit, nobody, no money and no tip. Nobody wants to work at the night shift, everyone wants to work at the day shift. This is unfair. So, the pooled tipping system makes the most sense (Participant 6, male, waiter).

For example, a guest, who gives a tip, sits at the table which I serve, but the next day he may not sit at that table. This situation can sometimes turn into the stealing customers by the waiters/waitresses. You know the guest who gave tip and this guest is a repeat customer. You serve this guest by knowing who he/she is. But there are such waiters/waitresses who stick to the guest even at the entrance and call the guest to the table they serve. Therefore, individual tipping system is not fair (Participant 29, male, waiter).

2.2. When Do Customers Tip?

Customers' tipping behaviors vary according to the factors that depend on the employees and customers themselves. Besides, participants stated that apart from their general attitude, customers are more generous about tipping on special days such as feast, valentine's day, new year. If we put such special situations aside, we can divide the factors that determine the tipping into two groups as customer-oriented and employee-oriented.

Customer-oriented factors

Employees specified the factors that positively affect customers' tipping behavior as follows: (1) Having a tipping habit (2) Feeling special (3) Being drunk (4) Making a show of to the person or people with him/her (5) Having a good mood (6) Having a friendly and caressing attitude towards employees (7) Being rich (8) Overspending or having a high amount of bill.

Similarly, Lynn & McCall (2016) found that bill size is the most important factor affecting the amount of tip, and that the mood of the customer during the service encounter has a significant effect on the amount of tip. The findings of Sanchez (2002) that alcohol-consuming customers give more tips and the findings of Shamir (1984) that customers use tipping as a power/status indicator support the statements of participants.

Participant 6's statement about how drunkenness affects tipping behavior is as follows:

A customer is more likely to tip when he/she is drunk. Because he/she doesn't remember, can't see things right, doesn't know. Probably, the next day he/she doesn't remember it and tip more (Participant 6, male, waiter).

In addition, the participants underlined that the most important factor in the formation of the tipping behavior of the customer is the tipping habit. Because in this case, whatever the employees do, the customer will tip.

The customer who tips will already tip, he/she will tip anyway (Participant 3, male, receptionist).

While most of the participants stated that customers tip when they feel special, and emphasized that what they mean by feeling special is that customers feel more privileged than other customers. Some of the participants stated that they serve above the standards to some customers that they think will tip. Participant 12, stated how they estimate which customer will tip and how they treat them:

His/her car, his/her clothes, how many suitcases he/she came with, even the brand of his/her suitcases can be important for us. Because there are 100 TL worth suitcase and 500 TL worth suitcases. We know them already. There are suitcases like a metal case. These draw our attention during the entrances and exits. Even though we are busy when they leave the hotel and

other rooms are waiting for us, we give them water or wet wipes or towels and we say "please come again". If he/she is going to the airport from the hotel, we tell him/her how to go there or give information about the transfer car of the hotel. We explain everything and he/she sees it because we really make other guests while we are taking care of him/her. We can get more tips by doing that (Participant 12, male, bellboy).

Employees who conveyed their experiences about the cases when customers tip more, also stated that the approach and attitude of the customers to the employee is decisive and the current mood of the customer is an important factor determining the amount of tip:

There are guests who are constantly bossing over and are not satisfied with anything. Whatever you do, you cannot satisfy him/her. It is also not possible for him/her to tip (Participant 10, female, restaurant chief).

While showing the room to the guest, his/her mental state is important. It is obviously up to the customer whether he/she tips. Is she/he travel-worn, how is his/her mood, how does he/she feel? (Participant 12, male, bellboy).

Another participant emphasized that customers tip to show off to people who are next to them:

For example, X (a famous person) came to our hotel, he was over 70 years old. He came every day with a different 18-year-old girl. When I say "Mr. X, welcome", he tips, when I say "Mr. X goodbye", he tips. … There are people who tip just to show off (Participant 1, male, waiter).

A tip is given to the vale. This habit is already adopted. I say especially for the city hotels, a man comes with a woman, tries to impress the woman, gives you 200 TL just because you handed the car key when he is next to that woman. Under normal circumstances, this man doesn't give you even 1 TL. Some guests do this, too. For example, some guests give tips to the employee who serves them just to be greeted with his name. To make the employee say "Welcome, Mr. X". Not for service. It is enough for him to make the employee advertise him to the man next to him. (Participant 3, male receptionist).

Employee-oriented factors

When the employees stated the factors related to them about factors that affect tipping behavior positively, they emphasized respectively the importance of; (1) Smiling (2) Acting warmly and sincere (3) Making extra effort apart from the main service (4) Looking tired (5) Providing a service of good quality (6) Looking clean and well-groomed

Many of the employees stated that smiling affects customers' tipping behavior. Participant 28 stated that not just smiling, but a warm smile is effective on customers' behavior as Bujisic et al. (2013) suggested. Participant 29 emphasized that smiling is a necessity:

The come here somehow to satisfy their ego. Because they think that they are on vacation, they pay for the service, so employees have to smile and they are right. I also don't want a waiter/waitress, who is not smiling, to serve me (Participant 29, male, waiter).

The customer is always ready to tip. How can I say, for example, the guest came, first of all, you have to welcome him/her in a friendly way. After you make that friendly welcome, the guest is already starting to warm to you. As you serve, they start to think about tipping. They tip in that way, too. (Participant 25, male, waiter).

Although Prett (2015) claims that beauty affects customers' tipping behavior, most of the participants stated that not beauty, but looking clean and well-groomed can positively affect the customers' tipping behavior. In addition, many of the participants surprisingly stated that customers tip more when the employees look tired. As Saunders & Lynn (2010) stated, this may be due to customers' willingness to help employees. Participant 6 expressed this situation as follows:

The person next to you has the perception that you are a laborer. This makes him/her to tip more. For example, we work 8 hours a day in our hotel. The guest sees you at 12 o'clock at night, and he/she sees you at 8 o'clock in the same place, He/she asks "Are you still here?". Then, when there are a few works to do, they have the feeling to tip. In fact, it seems like they feel bad for us a little bit (Participant 6, male, waiter).

2.3. Employees' Tipping Strategies

Employees stated that there was a group of behavioral patterns and strategies they developed to receive a tip. Even the participants, who told that they do not have a strategy to get a tip, talked about what they do to get more tips later during the interview. Based on the statements of the employees, the strategies they applied the most were; (1) to be warm and sincere, (2) to smile, (3) to offer various treats, (4) to make them feel special, (5) to be nice, (6) to communicate by knowing their names, (7) trying to increase the amount of the bill, (8) chatting, (9) making a joke. Some examples of these strategies given by the participants are striking:

I will tell you the most effective strategy, you have to receive an order from the guest just once. Later, if you know what he/she wants to eat or drink, and you bring it without saying, you have always the chance of getting tip […] You will greet him/her with his/her name and say good morning then let him/her seat at the table, then you will bring his/her order directly without receiving an order. You will get your tip with a 100% possibility (Participant 10, female, restaurant chief).

When I say "Hello, welcome, sir, let me bring your drink", they look at me and get surprised. The people next to him think that he is there every day. This situation nobilitates him when they are with his friends. Therefore, he tips (Participant 5, male, waiter).

Findings that participants get more tip by being cute and increasing the amount of bill size through increasing sales are similar to the results of the meta-analysis study conducted by Lynn & McCall (2016). Participants' statements that indicate the amount of the bill size is important for getting a tip is as follows:

I recommend to the customer the most expensive meal, for example, I sell lobster, fish. For example, the customer wants pasta, then I recommend the pasta with lobster (Participant 1, male, waiter).

Besides, participants emphasized that it is an important strategy to treat what customers actually do not what but what employees think that they might like. Participant 31 stated the importance of treats as follows:

For example, when you serve whiskey, there is no side chocolate. I always have a couple of chocolate bars I buy from the market. I buy it myself. I give these chocolate bars to the customers who I know before. So, I do something extra. There are nuts at the hotel, but nuts aren't good with whisky, chocolate is better. If I know that the customer tips, I serve him/her chocolate with whiskey (Participant 31, female, bar chief).

In addition, as can be understood from the statement of Participant 30, employees told that customer satisfaction differs from customer to customer, therefore it is necessary to act by trying to understand what customer wants. Participant 32 stated that it would be wrong to get a tip paying attention to every customer more than they expected, employees should treat differently by recognizing the customer whether he/she is thought to be satisfied with more attention or not:

Some guests enjoy being interested. You do everything for them. You need to know the guest's wants. Because some customers' attitudes show you that you should serve and go away. You understand that over time. If there are customers who wait for extra service, you bring their wet wipes, toothpicks etc. without ordering. Actually, there is no need for a toothpick. The guest did not eat meat, he ordered some dessert or tea, but you bring him a toothpick. This means that I give you an extra service and I want something in return (Participant 30, female, waitress).

I'd try a joke first, if the customer likes it, then go ahead. Sometimes when I joke, the customer doesn't like it, some people like discipline. Then I try to behave like what the customer wants (Participant 32, male, receptionist).

3. Conclusion and Discussion

Due to the limited number of studies dealing with the topic of tipping from the employee perspective or studies dealing only with how employees perceive the tip and why they prefer tip, this study aimed to fill the gap in the literature. The current study investigates all aspects of how the employees perceive the tip, why customers tip and which strategies employees use to get tip.

Ogbonna & Harris (2002) argued the rewarding and motivation of employees related to wages policies in competitive environments, therefore it is important to investigate tipping behavior. The importance of this study is to deal with how the tip is perceived from the employee perspective with reference to employees' feelings, opinions and experiences working at hotels in Turkey. According to the findings of this study, employees stated that they perceive the tip as a wage and customers stated that they consider the tip as a reward. Also, employees have mentioned the distress caused by the customers who perceive the tip as a reward (harassment and the effort of the customer to exert superiority over the employee). The tip concept differs from culture to culture as wells as between different professions within the same culture. Therefore, tipping can be seen as a wage they deserve in return for their labor by the employees as well as a tool for exploitation and harassment, a noiance increasing the competition among employees, a factor increasing the domination of the employer over the employees. Especially participants, who define the tip as their deserved wages (Mulinari, 2016), stated that the tip increases their motivation when it is fairly shared or

given in a way that does not hurt themselves. This is an indication that the way or the fair distribution of the tip is more important and motivating for the employees rather than the amount of tip. As stated by Ogbonna & Harris (2002), the definition of the tip as an instrument of exploitation by the same participants in the study indicates that there is no established norm in Turkey and the industry regarding the nature of the tip. Based on this study, which deals with the perceptions of employees towards tipping in the hospitality industry, we can say that the industry needs some normative regulations regarding tipping.

While tipping is unacceptable in some countries such as Japan, it has become an obligation in countries like the USA (Ferguson et. al., 2017). Azar (2004) defines the situation that tipping is an obligation in the USA as becoming a social norm. While tipping is already presupposed in cultures where it is accepted as the social norm, the studies usually focus on the amount of tip. There is no study examining whether tipping is a social norm or how it is perceived in Turkey. However, we cannot assert that there is a common acceptance that tipping is a social norm with reference to statements of participants about customers' tipping behaviors. Unlike countries that accept tipping as a social norm, the tip is not still considered as an obligation in Turkey. Thus, we can say that Turkey's perception of the tip lays between the perception of countries that find tipping unacceptable and countries that accepts tipping as a social norm. Tipping is neither an obligation nor an unacceptable thing. For this reason, in regards to the place, tipper, employees etc., it is sometimes seen as something humiliating and sometimes as a shame when not tipping. Therefore, in order to investigate the tip concept in a more comprehensive way in Turkey, there is a need for multidimensional studies addressing all the dynamics (customer, profession, workplace, region etc.) that determine the tip perception.

As stated above, employees divide factors that determine tipping behavior into two groups as customer and employee-oriented and based on these dynamics, they develop strategies to increase their income. A normative structure developed by the sector will prevent the different practices that lead to such strategies, as well as the negativity related to the tipping that some participants stated. If the businesses have such tipping policies and inform customers about their policy, it will eliminate the uncertainty for the employees and in some cases the unpredictability for the customers. Indeed, the need for a normative arrangement for collecting tips in a pooled system, provided that the tip is shared fairly, can be considered as a sign of the need for companies to form their tipping policies. Of course, it will be possible to transform these suggestions into concrete suggestions only with the results of the comprehensive studies and negotiations. However, starting from this study, it is essential to take into account serious problems (such as the tip becoming a means of exploitation and control, enabling harassment, eliminating employer's responsibility to the customer and the employee) and the issues about tipping stated by the participants.

References

Altunışık, R., Çoşkun, R., Yildirim, E. ve Bayraktaroğlu, S. (2012). Sosyal Bilimlerde Araştırma Yöntemleri. (7. Baskı), Sakarya: Sakarya Kitabevi.

Atkinson,R.& Flint, J. (2001). Accessing Hidden and Hard-to-Reach Populations: Snowball Research Strategies,. Social Research Update, 33, 1.

Azar, O.H. (2003). The Implications of Tipping for Economics and Management. The International Journal of Social Economics 30, 1084–1094.

Azar, O. H. (2004). What Sustains Social Norms and How They Evolve?: The Case of Tipping. Journal of Economic Behaviour & Organization, 54(1): 49-64.

Azar, O.H. (2005). Who Do We Tip and Why? An Empirical Investigation", Applied Economics, 37(16): 1871-1879.

Azar, O. H. (2009). Incentives and Service Quality in The Restaurant Industry: The Tipping-Service Puzzle. Applied Economics, 41(15), 1917–1927.

Azar, O. H. (2010a). Do People Tip Because of Psychological or Strategic. Applied Economics, 42(23): 3039-3044.

Azar, O. H. (2010b). Tipping Motivations And Behavior in the US And Israel", Journal of Applied Social Psychology, 40(2):421 – 457.

Azar, O. H. (2011). Business Strategy and the Social Norm of Tipping. Journal of Economic Psychology, 32: 515-525.

Bodvarsson, B & Gibson, W. A. (1994). Gratuities and Customer Appraisal of Service: Evidence from Minesota Restaurants. The Journal of Socio-Economics, 23(3): 287-302.

Bujisic, M., Wu, L., Mattila, A. & Bilgihan, A. (2013). Not All Smiles are Created Equal Investigating The Effects of Display Authenticity and Service Relationship on Customer Tipping Behavior. International Journal of Contemporary Hospitality Management, 26 (2):293-306.

Curtis, C. R., Upchurch, R.S & Severt, D. E. (2009). Employee Motivation and Organizational Commitment: A Comparison of Tipped andNontipped Restaurant Employees. International Journal of Hospitality & Tourism Administration, 10:3, 253-269.

Crespi, L. P. (1947).The Implications of Tipping in America. Public Opinion Quarterly, 11: 424-435.

Ferguson, G., Megehee, C. M.& Woodside, A. G. (2017). Culture, Religiosity, And Economic Configural Models Explaining Tipping-Behavior Prevalence Across Nations. Tourism Management, 62: 218-233.

Gueguen, N.& Jacob, C. (2014). Clothing Color and Tipping: Gentlemen Patrons Give More Tips to Waitresses with Red Clothes. Journal of Hospitality & Tourism Research, 38(2): 275-280.

Isik, C, Dogru, T, Turk, E, S. (2018). A Nexus of Linear and Non-Linear Relationships Between Tourism Demand, Renewable Energy Consumption, and Economic Growth: Theory and Evidence. International Journal of Tourism Research, 20: 38– 49.

Jacob, C., Gueguen, N., Boulbry,G.& Ardiccioni, R. (2010). Waitresses' Facial Cosmetics and Tipping: A Field Experiment. International Journal of Hospitality Management, 29: 188–190.

Lynn, M., & Graves, J. (1996). Tipping: An Incentive/Reward for Service? Journal of Hospitality and Tourism Research,, 20(1): 1-14.

Lynn, M. (1997). Tipping Customs and Status Seeking: A Cross-Country Study. International Journal of Hospitality Management, 16(2): 221-224.

Lynn, M., & McCall, M. (2000). Gratitude and Gratuity: A Meta-Analysis of Research on the Service-Tipping Relationship. Journal of Socio-Economics, 29 (2).

Lynn, M. (2015). "Service Gratuities and Tipping: A Motivational Framework", Journal of Economic Psychology,46: 74-88. doi: 10.1016/j.joep.2014.12.002.

Lynn, M.& McCall, M. (2016). Beyond Gratitude and Gratitude and Gratuity: A Meta-Analytic Review of the View of the Predictors of Restaurant Tipping. Working Paper No. 21, Cornell University. Accessed April 22, 2019.

Mulinari, P. (2016). Weapons of the Poor: Tipping and Resistance in Precarious Times", Economic and Industrial Democracy, . doi:10.1177/0143831X16653188

Namasivayam, K. & Upneja, A. (2008). Employee Preferences for Tipping System, Journal of Foodservice Business Research, 10(2): 93-107.

Ogbonna, E. &Harris, L. C. (2002). Institutionalization of Tipping as a Source of Managerial Control. British Journal of Industrial Relations , 40(4):725–752.

Parasuraman, A., Zeithaml, V. and Berry, L. (1988). SERVQUAL: Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality. Journal of Retailing, Vol. 64 (1):12-40.

Parett, M. (2015). Beauty and the Feast: Examining The Effect of Beauty on Earnings Using Restaurant Tipping Data. Journal of Economic Psychology, 49: 34-46.

Saunders, S. G., & Lynn, M. (2010). Why Tip? An Empirical Test of Motivations for Tipping Car Guards. Journal of Economic Psychology, 31(1): 106-113.

Saunders, S. G. (2015). Service Employee Evaluations of Customer Tips: An Expectations-Disconfirmation Tip Gap Approach. Journal of Service Theory and Practice, 25(6):7 96-812.

Sanchez, A. (2002). The Effect of Alcohol Consumption and Patronage Frequency on Restaurant Tipping. Journal of Foodservice Business Research, 5(3):19-36.

Segrave, K. (2009). Tipping: An American Social History of Gratuites. Mc Farland & Company: London

Seiter, J.S. (2007). Ingratiation and Gratuity: The Effect of Complimenting Customers on Tipping Behavior in Restaurants. Journal of Applied Social Psychology, 37(3): 478–485.

Seiter, J.S.& Weger, H. (2018). The Principle of Reciprocity in Hospitality Contexts: The Relationship Between Tipping Behavior and Food Servers' Approaches To Handling Leftovers. Journal of Hospitality & Tourism Research, 42,(2): 287–294.

Shamir, B. (1984). Between Gratitude and Gratuity: An Analysis of Tipping. Annals of Tourism Research, 11: 59-78.

Star, N. (1988).The International Guide to Tipping, NewYork: BerkleyBooks.

Tse, A. C. (2003) Tipping Behaviour: A Disconfirmation of Expectation Perspective. Hospitality Management, 22: 461-567.

EGE AKADEMİK BAKIŞ / *EGE ACADEMIC REVIEW*

Cilt 20 • Sayı 3 • Temmuz 2020
SS. 221 / 230
Doi: --
Başvuru Tarihi: 08.10.2018 • Kabul Tarihi: 12.07.2020

The Impact of Natural Resource Abundance on Manufacturing Exports from a Technology Intensity Perspective

Şule GÜNDÜZ[1] *https://orcid.org/0000-0001-5484-5795*
Yeşim R. KUŞTEPELİ[2] *https://orcid.org/0000-0001-9600-2892*

ABSTRACT

The association between natural resource abundance and economic performance has been the common concern of economists and political philosophers for centuries. While plenty of resources is a blessing for some countries, others suffer from the paradox of plenty known as Dutch disease. This study aims to search the interaction between natural resource rents and the manufacturing exports of the 34 Organization for Economic Co-Operation and Development (OECD) countries between the years 1990-2015, depending on the technology intensity of sectors using the gravity model of trade. The findings of the study indicate that there is Dutch disease in all of the classifications of manufacturing industries. In other words, for the 34 OECD countries, the upsurge in natural resource rents has an impact on the manufacturing sector's performance in all subcategories.

Keywords: Natural resource abundance, economic performance, Dutch disease, gravity model, technology intensity.

JEL Classification: O5, O13, Q32, Q33

Introduction

Until 1960s, the dominant belief about the role of resource abundance on economic growth was that being endowed with immense natural resources contributed to the industrialization process and economic growth of countries. Rostow (1959: 5) mentions the importance of productive exploitation of natural resources on growth. Canada's, Britain's and United States' growth trajectories are very much linked to their natural resources endowments. Tripathy (1985: 143) states that Canada owes its economic success to exploitation and exports of its abundant natural resources such as fur and fish. He argues that the export-led growth strategy of Canada was the basic reason for that development during the period 1886-1913. David and Wright (1997: 203), Mikesell (1997: 191), Wright and Czelusta (2007: 184-185) suggest that natural resource endowments triggered growth and development of the United States. Rostow (1961: 6) argues that Britain favored from natural resources for take-off.

Although it may be apparent that countries like the U.S., Britain and Canada owe their rapid industrialization and growth rates to their natural resource endowments, Auty (2007: 627) states that after the Second World War and especially after 1960s, evidence has suggested that numerous resource–rich countries experienced deterioration in their economic performance. Many of the studies conclude that natural resources, seldom if ever, provide the sustainable surplus required for economic growth. This negative correlation is called Resource Curse (Auty: 1993: 1).

Even though there are plenty of social and political comments for the Resource Curse, this study concentrates on one of the economic explanations, "Dutch disease", to analyze the impact of natural resource rents on the real economy. The contribution of this study to the existing Dutch disease literature is an analysis of the phenomena from a technology intensity perspective. The idea arises from the works of Bresser-Pereira (2008) and a more recent analysis found in Camargo and Gala

[1]Dokuz Eylul University, Faculty of Business Administration, Department of Economics, Buca, Izmir, sule.gunduz@deu.edu.tr
[2]Dokuz Eylul University, Faculty of Business Administration, Department of Economics, Buca, Izmir, yesim.kustepeli@deu.edu.tr

(2017). Bresser-Pereira (2008: 62) reports that among the symptoms of Dutch disease is a gradual decline in the export performance of high value-added manufactured goods produced by high-technology industries, meaning that these industries are more affected by the disease. The authors' reasoning behind this intuition is that increases in labor abundance result in cheap labor, which is also a cause for an extended version of the Dutch Disease, in the sense that since high-technology industries require highly skilled labor, a country with an abundance of cheap labor falls short of gaining a comparative advantage in these types of goods. We extend this view by stating that high-technology industries can be more vulnerable to Dutch disease due to their dependence on high levels of R&D requirements. Natural resources sectors also require high R&D research and are technology-intensive in nature (Fagerberg et al. 2009). Larsen (2006: 624) states that according to Cappelen, Eika and Holm (2000), capital/labor ratio in the Norwegian oil industry is 33 times larger than that of the Norwegian manufacturing industry. As a result, in the case that natural resources sectors boom, the transfer of resources into production in these sectors is likely to be from other technology-intensive manufacturing industries, in the form of skilled labor and capital, implying that there is reason to hypothesize that these sectors can be more likely to be affected by Dutch disease. Supporting this intuition is also Looney's (1989: 35) work stating that a boom in the oil sector can make it increasingly difficult to achieve complexity in the manufacturing sectors. Consequentially, we aim to scrutinize the influence of natural resource abundance on manufacturing exports, focusing whether the impact of the Dutch disease varies depending on the technology intensity of manufacturing goods produced, for 34 OECD countries[1] between the years 1990-2015.

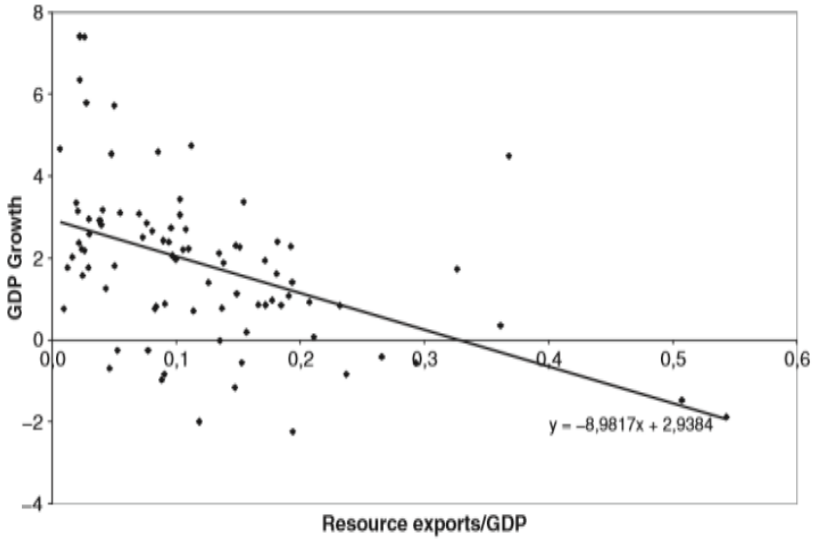
It has been a common trend in the literature to investigate the presence of the Dutch disease in a country or in country groups (Sachs and Warner: 1995, Usui: 1997, Beine et al.: 2012, Bjørnland and Thorsrud: 2016). This vein of literature often aims to diagnose whether the country under investigation explicitly suffers from the Dutch disease or not. On the other hand, we hypothesize that although a country might be explicitly suffering from the Dutch disease in the context of the total sum of its industry, not all the industries, just the weaker industries within the country may have been hurt by the disease. This indicates an implicit case of the Dutch disease, detectable not in individual countries but in individual industries. Therefore, the study at hand aims to diagnose manufacturing industries, not countries. Our aim is to search for a common manufacturing-sector-based impact of the disease in countries, rather than on a country-specific basis. The intuition behind this inquiry is that high-technology manufacturing industries may not be negatively affected by the Dutch disease, since higher value added production in those sectors may prevent the factors of production from moving to the natural resources sector. On the contrary, low-technology manufacturing industries might be suffering from the disease because opportunities for higher value-added production in the natural resources sector may crowd out the low-technology manufacturing sectors. The gravity model is implemented to search for the interaction between the change in total natural resource rents as a share of GDP and manufacturing sector's performance for four subcategories of that sector[2]. The findings show that there exists a crowding out effect of rise in natural resource rents on the manufacturing sector in the four subcategories for the 34 OECD countries.

Section 1 provides explanation of the Resource Curse together with a review of literature on "Natural Resource Curse/Blessing" and "Dutch disease". In Section 2, data and model are explained and the findings are presented. Finally, the study is concluded.

1. Literature Review

There exists a vast theoretical and empirical literature investigating the influence of natural resources on the economic performance. The findings of these studies suggest that the interaction between the two variables is not bulletproof. Some studies, (e.g. Brunnschweiler, (2007: 413), Alexeev and Conrad, (2009: 586)) conclude that the abundance of natural resources contributes to prosperity; others object to that view and claim that it causes economic contraction. Especially after the 1960s, the evidence has suggested that resource-rich countries grow slower on average than resource-poor ones. Auty (1993: 1) defines the negative relationship as "Resource Curse". Auty (2001: 3) states that per capita incomes of resource-rich countries grew less than half rate as compared to resource-poor countries between 1960-1990. Many empirical studies such as Gelb (1988: 143); Sachs and Warner (1995: 2; 1997: 2; 1999: 43; 2001: 827); Gylfason et al., (1999: 213, 223), Atkinson and Hamilton (2003: 1804), Neumayer (2004: 1636), Bulte et al. (2005: 1038) conclude that resource abundance might engender suffering in economic performance. Similarly, Torvik (2009: 242), in Figure 1, shows that as Resource

exports/GDP increases the GDP growth declines using the data of Mehlum et al. (2006).



Source: Torvik (2009: 242).

Figure 1: Resource Abundance and Growth

Besides the voluminous literature that investigates the existence/non-existence of the resource curse, there are also many studies that try to figure out the channels of the intriguing relationship between natural resource rents and dragging economic performance. According to Frankel (2010: 34), the main transmission channels can be summarized as: long-term trends in world commodity prices, terms of trade volatility, political instability and civil wars, poor institutions (which lead to rent seeking) and finally Dutch disease. Arin et al (2019: 2) empirically investigate each of the mentioned channels to put forth how natural resources affect growth in the medium-run. In this study, we focus on the Dutch disease explanation of the Resource Curse hypothesis.

Dutch disease is a paradoxical situation where a boom in one sector hinders the growth of the other one. Smith (2014: 1) states that the Economist magazine named that paradox as Dutch disease, following the decline in Netherland's economic growth rate after the discovery of large natural gas fields in the 1960s. The standard core model regarding the analysis of Dutch disease was developed by Corden and Neary (1982: 825-848) and extended by Corden (1984: 360-376). Dutch disease causes the overall growth rate to deteriorate with respect to a de-industrialization process following a boom in natural resources sector. The boom causes a reallocation of resources through spending effect (demand side) which paves the way to indirect de-industrialization and resource movement effect (supply side) which gives rise to direct de-industrialization. Some of the countries experience the two effects together whereas some of them realize just one. Stijns (2005: 110) argues that the results of the boom are different for different countries. He states that the stories of developed countries differ from the less developed ones due to their structural differences such as property rights systems. Cherif (2013: 254) states that the Dutch disease is sterner in the developing countries.

Many empirical studies have been conducted to diagnose Dutch disease in OECD countries. For example, Corden (2012) and Bjørnland and Thorsrud (2016) are among the latest studies that examine Dutch disease in Australia. Larsen (2006), Holden (2013), Bjørnland et al. (2019) investigate the Dutch disease in Norway. James and Aadland (2011), Allcott and Keniston (2018) are among the studies that search for Dutch disease in the United States. Beine et al. (2012) investigate whether the Canadian economy suffers from Dutch disease.

Among the studies, which employ gravity model of trade to search for the existence of Dutch disease are Stijns (2003), Kubo (2014), van der Marel and Dreyel (2014) and Feshari (2016). Stijns (2003) conducts an empirical analysis using gravity model to investigate Dutch disease regarding world trade data and concludes that there is little evidence for the existence of Dutch disease. The study conducted by Kubo (2014) uses gravity model and finds signs of Dutch disease. van der Marel and Dreyel (2014) employs the model to analyze Dutch disease in Russia. The authors conclude that Russia suffers from Dutch disease and they relate this result to the weak rule of law prevailing in the country. Feshari (2016) investigates the existence of Dutch disease in the Iranian economy using the gravity model of trade for the 1990-2015 period and finds no evidence of Dutch disease.

2. The Model and the Data

The methodology of the study rests upon the gravity model of trade. It is used to search for the existence of

Dutch disease from a technology intensity perspective for 34 OECD countries between the years 1990-2015.

2.1. Conceptual Framework of the Gravity Model

Gravity model of trade resembles the gravity model of physics that is based on Newton's Law of Gravity[3]. In both physics and economics, there is an inverse relation between the distance and attraction or economic relations[4]. Trade among the countries is basically a function of the distance and the GDP of each country together with some other determinants[5].

The gravity model has been used in economics, after its initiation by Tinbergen (1962) and Pöyhönen (1963). Many researchers such as Anderson (1979: 106), Feenstra et al. (2001: 430), Brun et al. (2005: 99), Head and Mayer (2014: 132) present the model as a grindstone for grasping the international trade flows. The main criticism the gravity equation received was its inability to model what was generally called multilateral trade resistance term (MRT), a term that was coined in order to define a well-documented fact that a given country will trade with another given country at varying volumes depending on what other options it has in terms of trade patterns. Therefore, many scholars have focused on incorporating multilateral resistances into the gravity equation.

The gravity literature has been developing for decades and as Frankel states (1998: 2) it keeps developing towards more accurate theoretical baseline. The earlier contributions to the model have been made by studies such as Anderson and van Wincoop (2003: 170) and Feenstra (2004) and Baier et al. (2007). Bergstrand et al. (2013: 110) state that Anderson and van Wincoop (2003) strengthened the theoretical foundations of the gravity model. Head and Mayer (2014: 136) argue that the study conducted by Feenstra (2004) considered the impact of multilateral trade resistances by means of considering importer and exporter fixed effects. Behrens et al. (2012: 785) also state that Feenstra (2004) captures the impact of the multilateral trade resistance term by employing region-specific importer and exporter fixed effects. Finally, the most up-to-date contributions regarding the correct application of the gravity model have come from as Bergstrand et al. (2015) and Baier et al (2015). Extending these recent developments in an advanced guide to trade policy empirics published by the World Trade Organization, Yotov et al. (2016) demonstrate the latest developments in empirical gravity literature to obtain reliable estimates of the gravity model. The authors state that the use of exporter/importer-time fixed effects is a feasible way of controlling for the multilateral resistances as well as observable and unobservable characteristics that change over time for each exporter and importer (Yotov et al., 2016: 24).

2.1.1. The data and the model

2.1.1.1. The Data

The manufacturing exports data has been compiled from the OECD Structural Analysis Database for 34 OECD countries. The data have been categorized according to OECD's classification of manufacturing industries based on technology intensity. According to ISIC Rev 3 classification[6], we organized manufacturing exports data in four groups in order to investigate whether the impact of the Dutch disease varies depending on different levels of technology intensity.

Total natural resources rent as a share of GDP data is gathered from the World Bank Database. Total natural resources rents are found by adding oil, natural gas, coal, mineral and forest rents. We use the annual change in GDP share of total natural resources rent. We form the rest of the gravity model variables in accordance with the contemporary gravity literature using CEP II [7] gravity data set.

2.1.1.2. The Model

The econometric model in this study is an application of a theoretical gravity model in accordance with the methodology suggested by Yotov et al. (2016: 24). In line with their recommendation, we employ exporter-year and importer-year fixed effects to account for the multilateral resistance terms in our analysis. We run five separate regressions based on the following equation. In Model 1, the dependent variable is the natural logarithm of total manufacturing exports without any classification of technology intensity. Construction of this model is important in understanding if there is any crowding-out effect on the total manufacturing exports of the countries as a consequence of increases in total natural resources rents. Each of the remaining four models investigates the case for a different level of technology intensity using the following equation to see whether there is any difference among the industries with different technology intensity.

Equation: $\ln(X_{ijt}) = \beta_0 + \beta_1 rent_{it} + \beta_2 ldist_{ij} + \beta_3 exporter\_year\_FE + \beta_4 importer\_year\_FE + \varepsilon$

where;

X_{ijt}:	Natural logarithm of manufacturing exports from country i to j in year t (dependent variable)
$dist_{ij}$:	Natural logarithm of distance between trade partners
$rent_{it}$:	Percentage change in the GDP share of total natural resource rents
exporter_year_FE:	Vector of exporter-year fixed-effect dummies
importer_year_FE:	Vector of importer-year fixed-effect dummies

The dependent variable in each model is the manufacturing exports. The key independent variable of investigation in our model is "rent". This variable measures annual percentage change in the GDP share of total natural resource rents. The aim is to capture the impact of changes in the GDP share of the total natural resources rent on manufacturing exports as an indicator of Dutch disease. In that sense, if an increase in the size of the total natural resources rent in a country results in a decrease in total manufacturing exports, this finding can be interpreted as a sign of Dutch disease. Therefore, we expect a negative sign on the coefficient of the "rent" variable. Exporter-year and importer-year fixed-effect dummy variables control for the multilateral resistance terms.

2.1.1.3. Estimation Results

Table 1 presents our regression results. The findings of Model 1 suggest a negative impact of increases in GDP share of total natural resources rent on total manufacturing exports, with the sign of the "rent" variable negative as expected and statistically significant at 1%. Thus, the presence of Dutch disease symptoms in Model 1 further justify our convictions that a technology-intensity based analysis could be fruitful. Models 2, 3, 4 and 5 cover high-technology, medium-high technology, medium-low technology and low-technology manufacturing industries, respectively. In all of the five models, the distance variable is significant at 1% with the expected sign. The "rent" coefficient is also negative and significant at 1 % in the remaining four models. This finding implies that there exists a negative relationship between manufacturing exports and the change in total natural resource rents in all four categories of technology intensity, signaling towards symptoms of Dutch disease.

On the other hand, we find a significant trend in the respective impacts of the percentage change in the GDP share of total natural resource rents on manufacturing exports. The movement of the coefficient of the rent variable across the four models indicate that the impact of the change in total natural resources rent varies with the technology-intensity of the manufacturing sectors. This is apparent by the result that the coefficient of the variable rent is -0.029 in Model 5, -0.043 in Model 4, -0.076 in Model 3 and -0.081 in Model 2. That is, the more technologically-intensive manufacturing industries become, the higher is the negative impact of increases in total natural resources rents on manufacturing exports. The case seems to be that high-technology manufacturing industries are more prone to Dutch disease symptoms than low-technology manufacturing industries in the OECD countries for the period between 1990-2015. This finding is in line with the study conducted by Bresser-Pereira (2008), which states that high-technology industries are more affected by the disease.

Table 1: Regression results

Manufacturing Exports, 1990-2015					
Explanatory Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
constant	21.28**	18.50**	20.73**	23.50**	22.69**
	(55.76)	(51.16)	(41.45)	(50.05)	(54.36)
dist	-1.51**	-1.44**	-1.63**	-1.90**	-1.75**
	(-166.90)	(-124.86)	(-169.15)	(-172.76)	(-184.07)
rent	-0.060**	-0.081**	-0.076**	-0.043**	-0.029**
	(-8.75)	(-12.48)	(-8.72)	(-5.19)	(-3.50)
R-Squared	0.8632	0.8209	0.8504	0.7997	0.8030
Number of Observations	116.178	106.641	110.626	106.444	109.821

* Significant at 5%
** Significant at 1%

To sum up, the models' results demonstrate that significant changes in natural resource rents in countries bring about significant effects on manufacturing exports by countries, as the variable is statistically significant in all four models. This implies that the results reported in Table 1 comes in harmony in implying that symptoms of a Dutch disease appear when international trade of goods are categorized in accordance with the level of technology.

Conclusion

One of the highly discussed issues in economics literature is the linkage between the natural resource endowments and the growth rate of countries. Some scholars argue that natural resources bring prosperity to countries, while others oppose that view and argue that natural resources act like a curse for the countries that have plenty of them.

The impact of natural resource rents on economic performance is generally analyzed within the context of Resource Curse literature. This literature highlights the several channels through which windfall resource revenues may affect economic performance. In this study, we focus on the so-called Dutch disease channel to examine the impact of natural resource rents on manufacturing exports to capture evidence for Dutch disease from a technology intensity perspective.

We first check if there is a significant relationship between changes in GDP share of total natural resources rent and manufacturing exports, as a symptom of Dutch disease. After we detect the presence of the relationship, we try to find out if there is any difference, in terms of the intensity of Dutch disease symptoms, among the high-technology, medium-high technology, medium-low technology and low-technology manufacturing industries for the 34 OECD countries, for the period between 1990-2015. The results show that the negative impact of increases in total natural resources rents on manufacturing exports becomes higher as the manufacturing industries become more technology-intensive. In other words, high-technology manufacturing industries seem to be more prone to Dutch disease symptoms than low-technology manufacturing industries. One of the reasons behind this result might be related to the constraint on R&D expenditures. Since natural resources sectors also require high R&D investments, expansions of the natural resource sectors might put a drag on the R&D activities in the technology-intensive manufacturing industries. On the other hand, a booming natural resources sector might hinder diversification and complexity in the manufacturing sector. Future research might shed light on the magnified impact of Dutch disease on high-technology manufacturing industries.

REFERENCES

Alexeev, M. and Conrad, R. (2009). The Elusive Curse of Oil. *The Review of Economics and Statistics.* 91(3): 586-598.

Allcott, H. and Keniston, D. (2018). Dutch Disease or Agglomeration? The Local Economic Effects of Natural Resource Booms in Modern America. *Review of Economic Studies.* 85: 695-731.

Anderson, J. E. (1979). A Theoretical Foundation for the Gravity Equation. *The American Economic Review.* 69(1): 106-116.

Anderson, J., E. and van Wincoop, E. (2003). Gravity with Gravitas: A Solution to the Border Puzzle. *The American Economic Review*. 93(1): 170-192.

Anderson, J. E. and van Wincoop, E. (2004). Trade Costs. *Journal of Economic Literature*. 42(3): 691-751.

Anderson, J. E. (2010). The gravity model. NBER Working Paper No.16576: 1-45.

Arin, K.P., Braunfels, E., Zenker, C. (2019). On the Transmission Channels for the Resource Curse. CAMA Working Paper 67/2019.

Atkinson, G. and Hamilton, K. (2003). Savings, Growth and the Resource Curse Hypothesis. *World Development*. 31(11): 1793-1807.

Auty, R. M. (1993). *Sustaining Development in Mineral Economies: The resource curse thesis*. London: Routledge.

Auty, R. M. (2001). Introduction and Overview. *Resource Abundance and Economic Development* (pp. 3-16). Edited by R. M. Auty. Oxford: Oxford University Press.

Auty, R. M. (2007). Natural resources, capital accumulation and the resource curse. *Ecological Economics*. 61(4): 627-634.

Baier, S. L., Bergstrand, J. H. and Vidal, E. (2007). Free trade agreements in the Americas: are the trade effects larger than anticipated? *The World Economy*. 30(9): 1347-1377.

Baier, S. L., Bergstrand, J. H. and Clance, M. (2015). Heterogeneous Economic Integration Agreement Effects. CESifo Working Paper Series No. 5488. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2663955. 04.01.2020.

Behrens, K., Ertur, C. and Koch, W. (2012). "Dual" Gravity: Using Spatial Econometrics to control for Multilateral Resistance. *Journal of Applied Econometrics*. 27: 773- 794.

Beine, M., Bos, C. S. and Coulombe, S. (2012). Does the Canadian economy suffer from Dutch disease? *Resource and Energy Economics*. 34(4): 468-492.

Bergstrand, J. H., Egger, P. and Larch, M. (2013). Gravity Redux: Estimation of gravity- equation coefficients, elasticities of substitution, and general equilibrium comparative statics under asymmetric bilateral trade costs. *Journal of International Economics*. 89(1):110-121.

Bergstrand, J. H., Larch, M. and Yotov, Y. V. (2015). Economic Integration Agreements, Border Effects, and Distance Elasticities in Gravity Equations. *European Economic Review.* 78: 307-327.

Bjørnland, H.C. and Thorsrud, L.A. (2016). Boom or Gloom? Examining the Dutch Disease in Two-Speed Economies. *The Economic Journal*. 126(598): 2219-2256.

Bjørnland, H.C. and Thorsrud, L.A., Torvik, R. (2019). Dutch Disease dynamics reconsidered. *European Economic Review*. 119: 411-433.

Bresser-Pereira, L.C.L. (2008). The Dutch disease and its neutralization: a Ricardian approach. *Brazilian Journal of Political Economy*. 28(1): 47-71.

Brun, J-F., Carrere, C., Guillaumont, P. and de Melo, J. (2005). Has Distance Died?: Evidence from a Panel Gravity Model. *World Bank Econ Rev*. 19(1): 99-120.

Brunnschweiler, C. N. (2007). Cursing the Blessing?: Natural Resource Abundance, Institutions, and Economic Growth. *World Development*. 36(3): 399-419.

Bulte, E. H., Damania, R. and Deacon, R. T. (2005). Resource Intensity, Institutions, and Development. *World Development*. 33(7): 1029-1044.

Camargo, JSM and Gala, P. (2017). The resource curse reloaded: revisiting the Dutch disease with economic complexity analysis. https://bibliotecadigital.fgv.br/dspace/handle/10438/18037. 13.01.2020

Cherif, R. (2013). The Dutch Disease and the technological gap. *Journal of Development Economics.* 101: 248-255.

Corden, W. M. and Neary, J. P. (1982). Booming Sector and De-Industrialisation in a Small Open Economy. *The Economic Journal*. 92(368): 825-848.

Corden, W. M. (1984). Booming Sector and Dutch Disease Economies: Survey and Consolidation. *Oxford Economic Papers*. 36 (359-380).

Corden, W. M. (2012). Dutch Disease in Australia: Policy Options for a Three-Speed Economy. *The Australian Economic Review*. 45(3): 290-304.

David, P. A. and Wright, G. (1997). Increasing Returns and the Genesis of American Resource Abundance. *Industrial and Corporate Change.* 6(2): 203-245.

Fagerberg, J., Mowery, D.C. and Verspagen, B. (2009). The evolution of Norway's national innovation system. *Science and Public Policy*. 36(6): 431-444.

Feenstra, R. C., Markusen, J. R. and Rose, A. K. (2001). Using the gravity equation to differentiate among alternative theories of trade. *Canadian Journal of Economics*. 34(2): 430-447.

Feenstra, R. C. (2004). Advanced International Trade: Theory and Evidence. Princeton, NJ: Princeton University Press.

Feshari, M. (2016). Application of Trade Gravity Model between Iran and Main Trade Partners (Panel Data Approach). *International Journal of Resistive Economics*. 4(4): 83-95.

Frankel, J. A. (1998). Introduction. The Regionalization of the World Economy (pp. 1-7). Edited by J. A. Frankel, Chicago: Chicago University Press.

Frankel, J. A. (2010). The Natural Resource Curse: A Survey. NBER Working Paper. 15836: 1-48.

Gelb, A. H. (1988). *Oil Windfalls: Blessing or Curse?*. Oxford: Oxford University Press.

Gylfason, T., Herbertsson, T.T. and Zoega, G. (1999). A Mixed Blessing. *Macroeconomic Dynamics.* 3: 204-225.

Head, K. and Mayer, T. (2014). Chapter 3- Gravity Equations: Workhorse, Toolkit, and Cookbook. Handbook of International Economics 4 (pp. 131-195). Edited by G. Gopinath, E. Helpman and K. Rogoff, Amsterdam: Elsevier.

Holden, S. (2013). Avoiding the resource curse the case Norway. *Energy Policy.* 63: 870-876.

James, A. and Aadland, D. (2011). The curse of natural resources. An empirical investigation of U.S. counties. *Resource and Energy Economics*. 33: 440-453.

Kubo, K. (2014). Myanmar's non-resource export potential after the lifting of economic sanctions: a gravity model analysis. *Asia-Pacific Development Journal*. 21(1): 1-22.

Larsen, E. R. (2006). Escaping the Resource Curse and the Dutch Disease? When and Why Norway Caught Up with and Forged Ahead of Its Neighbors. American Journal of Economics and Sociology. 65(3): 605-640.

Looney, R.E. (1989). Oil Revenues and Viable Development: Impact of the Dutch Disease on Saudi Arabian Diversification Efforts. *American Arab Affairs*. 27: 29-35.

Mehlum, H., Moene, K. and Torvik, R. (2006). Institutions and the resource curse. The Economic Journal. 116: 1-20.

Mikesell, R. F. (1997). Explaining the resource curse, with special reference to mineral-exporting countries. *Resources Policy*. 23(4): 191-199.

Neumayer, E. (2004). Does the "Resource Curse" hold Growth in Genuine Income as Well?. *World Development*. 32(10): 1627-1640.

Pöyhönen, P. (1963). A Tentative Model for the Volume of Trade between Countries. *Weltwirtschaftliches Archiv* 90: 93-99.

Rostow, W. W. (1959). *The Stages of Economic Growth*. The Economic History Review. 12(1): 1-16.

Rostow, W. W. (1961). *The Stages of Economic Growth: A Non-communist Manifesto*. Cambridge: Cambridge University Press.

Sachs, J. D. and Warner, A. M. (1995). Natural Resource Abundance and Economic Growth. *National Bureau of Economic Research Working Paper.* 5398: 1-47.

Sachs, J. D. and Warner, A. M. (1997). Natural Resource Abundance and Economic Growth. *Center for International Development and Harvard Institute for International Development*.

Sachs, J. D. and Warner, A. M. (1999). The big push, natural resource booms and growth. *Journal of Development Economics*. 59: 43-76.

Sachs, J. D. and Warner, A. M. (2001). The curse of natural resources. *European Economic Review*. 45: 827-838.

Smith, B. (2014). Dutch disease and the oil and boom and bust. Oxcarre Research Paper 133. Oxford, UK: Oxford Centre for the Analysis of Resource Rich Economies, University of Oxford. https://www.economics.ox.ac.uk/materials/OxCarre/Research-Papers/oxcarrerp2014133.pdf. 25.01.2016

Stijns, J. (2003). An Empirical Test of the Dutch Disease Hypothesis using a gravity model of trade. http://econwpa.repec.org/eps/it/papers/0305/0305001.pdf. 24.01.2017.

Stijns, J. (2005). Natural resource abundance and economic growth revisited. *Resources Policy*. 30: 107-130.

Tinbergen, J.J. (1962). Shaping the world economy; suggestions for an international economic policy. New York, The Twentieth Century Fund.

Torvik, R. (2009). Why do some resource-abundant countries succeed while others do not?. *Oxford Review of Economic Policy*. 25(2): 241-256.

Tripathy, B. N. (1985). Export and Economic Growth. https://books.google.com.tr/books?id=upmPh9QmpMQC&pg=PA1&lpg=PA1&dq=export+led+growth+adam+smith&source=bl&ots=CcYotygWc1&sig=0OkVZw9cscfpb7skuYYh6joCKlU&hl=tr&sa=X&ved=0ahUKEwiuyOKkv7XRAhWpC8AKHWDyBTcQ6AEIHjAA#v=onepage&q=export%20led%20growth%20adam%20smith&f=false. 09.01.2017.

Usui, N. (1997). Dutch disease and policy adjustments to the oil boom: a comparative study of Indonesia and Mexico. *Resources Policy*. 23(4): 151-162.

van der Marel, E., Dreyer, I. (2014). Beyond Dutch disease. *Economics of Transition*. 22(2): 341-364.

Wright, G. and Czelusta, J. (2007). Resource- Based Growth Past and Present. *Natural Resources: Neither Curse Nor Destiny* (pp. 183-211). Edited by D. Lederman and W. F. Maloney. Palo Alto: Stanford University Press.

Yotov, Y. V., Piermartini, R., Monteiro, J-A. and Larch, M. (2016). An Advanced Guide to Trade Policy Analysis: The Structural Gravity Model. WTO, Geneva. https://www.wto.org/english/res_e/booksp_e/advancedwtounctad2016_e.pdf. 25.12.2019.

Endnotes

[1] The list of the 34 OECD countries : Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States.

[2] These subcategories are defined as: high technology (high-tech), medium-high technology (medium-high tech), medium-low technology (medium-low tech) and low technology (low tech) industries by the OECD Directorate for Science, Technology, Industry Economic Analysis and Statistics Division.

[3] $GF_{ij} = M_i M_j / D_{ij}$ $i \neq j$ where GF_{ij}: gravitational force between the two objects i and j, M_i: mass of object i M_j: mass of object j and D_{ij} : distance between the two objects. This equation clearly shows that the masses of the objects are directly proportional but distance is inversely proportional to the gravitational force between the two objects. This explanation implies that the countries with relatively larger GDP tend to have larger bilateral trade flows.

[4] Anderson (2010: 2) states that a good found at origin i, Y_i, is attracted by a mass of another good at origin j, E_j, but the potential flow is negatively affected by the distance between the two locations, d_{ij}. Then, X_{ij} shows the movement of goods between the two places.

$$X_{ij} = \frac{Y_i E_j}{d_{ij}^2}$$

[5] Anderson and van Wincoop (2004) accentuate that trade costs matter by the statement "the death of distance is exaggerated". This implies that trade among nations is highly affected from the trade costs which is generally related to transportation availabilities, insurance, freight and other related costs.

[6] To see the details of Classification of manufacturing industries according to ISIC Rev. 3 Technology Intensity Definition please visit https://www.oecd.org/sti/ind/48350231.pdf

[7] To gather more information visit http://www.cepii.fr/CEPII/en/cepii/cepii.asp

EGE AKADEMİK BAKIŞ / *EGE ACADEMIC REVIEW*

Cilt 20 • Sayı 3 • Temmuz 2020
SS. 231 / 244
Doi: --
Başvuru Tarihi: 31.07.2019 • Kabul Tarihi: 28.06.2020

An Analysis of out of Pocket Education Expenditures in Turkey: Logit and Tobit Models

Özlem KUVAT[1] *https://orcid.org/0000-0001-7017-4557*
Özlem AYVAZ KIZILGÖL[2] *https://orcid.org/0000-0001-9996-7892*

ABSTRACT

This study used data acquired from the 2017 Household Budget Survey from the Turkish Statistical Institute and used Logit and Tobit models and researched the risk of out-of-pocket education expenditures creating catastrophic expenditures. The study also researched the interactions of the out-of-pocket education expenditures by 20% income quintile based on the socioeconomic properties of the household. As a result of the analysis, it was seen that the catastrophic and out-of-pocket education expenditures increase in situations in which the household annual income, income quintiles, head of household age and education level increased and in which the household owns the house in which it resides. In case of difficult access to education services and increasing household size per equivalent individual, it was seen that out-of-pocket education expenditures decreased. It was concluded that an increase in the number of preschool children and the number of children studying in primary school and university reduced both expenditures but that an increase in the number of children studying in high school increased these expenditures.

Keywords: Out of Pocket Education Expenditures, Catastrophic Expenditures, Logit Model, Tobit Model, Turkey

JEL Classification: I21, I22, I32

1. INTRODUCTION

Education carries significant importance for increasing the level of welfare for people who live all over the world and especially in developing countries and ensuring economic growth and development. Education economists must develop policies by considering the importance of education while developing policies and planning investments. Primary school in particular is an important cornerstone in the provision of socio-economic development and the reduction of poverty for countries (Boateng, 2014: 536). It has emerged that educational gains are important not only for the economic welfare of individuals but also for nations. Access to and the completion of education is a key in accumulating human capital and in economic growth. The results of education extend beyond individual and national revenue. Education is also in a position of power that develops multifaceted individuals and establishes more consistent and participatory societies (OECD, 2002: 5).

The concepts of human capital and related education economy have been widely chosen as a field of study since 1960s. The effect of education in possessing high- and low-income professions in the economy, educational investments influence of personal income distribution, and the role in revealing the income inequalities for education level are important research topics. The fact that education is accepted as an investment tool beyond being a consumer product led to the question of who will finance education expenditures considering being made for education (Yolcu, 2011: 13, Yumuşak, 2008: 15).

Although a large portion of education expenditures are covered by the public, the rates of households joining in education costs is gradually increasing. The expenditures that households make to benefit from education services are called the special costs of education. Special education costs are opportunity costs with direct and indirect expenses. Direct expenses are expenditures like school fees, books, school supplies

[1]**Dr. Öğr. Üyesi, Balıkesir Üniversitesi, İİBF, İşletme Bölümü, ohasgul@balikesir.edu.tr 10145 Balıkesir**
[2]**Dr. Öğr. Üyesi, Bandırma Onyedi Eylül Üniversitesi, İİBF, Ekonometri Bölümü,okizilgol@bandirma.edu.tr, Bandırma/Balıkesir**

and uniforms that households pay for while indirect expenses are expenditures like food and housing. Opportunity costs also represent the income that the student gave up on acquiring by receiving an education rather than working with regards to a different economic activity (Yolcu, 2011: 13).

Some of the households' income can be used for compulsory consumption expenditures, some for optional consumption expenditures and some for investment purposes. The realization of these expenditures also gains importance in the identification of impoverishing effects. An increase in financial burden created by out-of-pocket education expenditures and catastrophic education expenditures over the impoverished segments of society constitute an important study in the determination of development and welfare (Çınaroğlu and Şahin, 2016: 87). The total out-of-pocket education expenditures for households must be noted in the investigation into the impoverishing effect of the expenditures made out of pocket. The status of the burden of an out-of-pocket expenditure being catastrophic, meaning the possibility of there being a heavy financial burden, can be measured proportionally to annual total income or expenditure for the financial burden of the education services. The calculation of financial burden is completed under the assumption that family members share their financial resources (Sülkü and Abdioğlu, 2014: 341).

The purpose of this study was to reveal the risks of accruing catastrophic education expenditures for households that education expenditures out of pocket in Turkey. The study, on the one hand, tried to determine with the Logit model the factors that effect the catastrophic education expenditures for households using the 2017 Household Budget Survey and, on the other hand, researched with the Tobit model the determinants for out of pocket education expenditures. The study finally noted the 20% income quintiles and studied the interactions based on socioeconomic levels for the households for out of pocket education expenditures.

Studies regarding education expenditures found in the study are discussed in the second section of this research, analysis results were interpreted by introducing the data set, variables and method used for the empirical analysis in the third section, and the fourth section comprises the presentation of results and recommendations.

2. LITERATURE REVIEW

There are numerous examples of studies performed on the determinants of education expenditures and education financing for households.

The study that Tilak (2002) conducted researched the education expenditures based on different groups for households using data from the "NCAER, Human Development in rural India (HDI)" survey in 1994. Household income and head of household education level were found to be significant as determinants for household expenditures. Household size, class and belief are the other important variables.

Aslam and Kingdon (2008) studied whether the distribution of a household budget for education supported men compared with women in a study they conducted in Pakistan. The indirect expenditure (Engel curve) methodology was used to research prejudice in households on the topic of gender discrimination. According to the acquired results, there is strong evidence that there is male bias in education expenditures, especially in the 10-14 and 15-19 age groups. Most of this different treatment shows itself in rural areas.

Mettle et al. (2011) used the Ghana Living Standards Survey Round 4 and tried to determine the rate of households that accrued catastrophic education expenditures in Ghana. The Catastrophic Expenditure Gap (CEG) was calculated for different situations. According to the acquired results, the tendency to make catastrophic education expenditures increases when the head of household is female, divorced, or lives in a coastal region. In addition, according to the results of the study, gender, age, head of household education level, household size, and region of settlement are significant determinants for catastrophic education expenditures.

Donkoh and Amikuzuno (2011) used data from the 2006/2007 Ghana Living Standards Survey Round Five (GLSS-V) survey in their study they conducted in Ghana. They created the Logit model to find the socio-economic determinants for the possibility that a household performs education expenditure. As a result of the study, two household categories, which had high possibilities of accruing expenditures for education, were identified. The first of these was the group of households whose head received formal education, that possesses land and vehicles and other durable assets and that lives in forested areas. The other is the households whose head is female and in which live

more children attending school, rural households and the households living far from the capital city.

Qian and Smyth (2011) considered survey data from 32 provinces selected from throughout China in 2003. The study researched education expenditures for the children of parents from two perspectives. First are the factors that influence local education expenditures while second are the factors that influence international education expenditures. According to the results they obtained, household income had significant effects over the size of domestic and international education expenditures. The possibility of a greater expenditure for education is high for children of households whose mothers have a middle school or prep school education and of fathers who work in professional occupations. In addition to this, the possibility of sending children abroad to for education increases in households in the highest income category, with a father who has received a university education, with a permanently employed or secondarily professional mother and that lives in a coastal region.

The study that Andreou (2012) conducted showed that the level of education expenditures for households in Cyprus increased with income over the years. The rates of expenditures households make for special education varies between 60-90% in the level of primary and middle school education. The most important factors that influence households' level of education expenditures are income, number of children within the household, region of residence, and age and education level of the head of household. However, the effect of the age and education level of the head of household decreases over time.

Quang (2012) reviewed with the Tobit model the factors that influence household expenditures for the education of children using the Vietnamese Household Living Standards Survey from 2006 (VHLSS 2006). According to the acquired results, it is seen that household income significantly affects the total amount of education expenditures. The possibility of making education expenditures increases in households in which the heads of household have a higher level of education and have a professional job. Households with primary- or middle-school-aged children accrue more expenditures for education, and those preschool- or university-aged children accrue fewer expenditures.

Sulaiman et al. (2012) reviewed the determinants of the demand for education for households in Malaysia using household survey data acquired from 10 provinces in their study. They also noted the awareness of parents on the topic of globalization in their children's education. According to the results of the study, some characteristics of parents are variables that are influential in the education expenditures of children. Among these are household income, mother's employment status, head of household job category, and household education level. The variable of awareness of parents as to the effects of globalization significantly affected education expenditures.

According to the study using the Engel model made by Azam and Kingdon (2013) in India, pro-male gender bias occurred in the allocation of domestic education expenditures in 1993-2005 despite significant progress in gender equality in education. It is decided to enroll the sons, not the girls in the middle school age group. Bias is significantly higher in rural than urban areas.

Ahmad and Batul (2013) analyzed the situation of poverty and education in Pakistan. Considering the 1971-2011 period, they studied the Granger causality relationship between the variables of poverty, education expenditures and education status. The research also included the variables of the percentage of the population within the national limits of poverty, the adult literacy rate above the age of 15, the percentage of total state expenditures, and the total school life expectancy. The research determined that there existed a strong single-directional causality relationship between total school living expectations and poverty in Pakistan. It is seen that there is a two-way causality relationship between the rate of adult literacy and poverty.

Rizk and Owusu-Afriyie (2014) examined the determinants of education expenditures they made for the households of children using data acquired from the 2010/2011 Egyptian Household Income, Expenditure and Consumption Survey in their study. In the study, they researched the effects of income and of the characteristics of the household regarding the distribution of education expenditures among school-aged children. The Ordinary Least Squares (OLS) and Generalized Method of Moments (GMM) were used. The education level for the head of household gradually created a more positive impact. It was specified that expenditures made for children's education increased significantly together with the increase in the household income level.

The aim of Habibov and Cheung (2016)'s study is to determine the impact of informal out-of-pocket payments on satisfaction from education in the countries

of the former Soviet Union and Mongolia. Therewithal the interaction model shows that the negative impact of paying unofficial out-of-pocket payments decreases as the quality of education increases. As the quality of education deteriorates, the negative impact of paying informal out-of-pocket payments increases significantly. These findings also suggest that more efforts should be made to reduce corruption.

In the study of Rizk and Abou-Ali (2016), a comparative study was presented for the pattern of household education expenditures using different population groups. In the study Harmonized Household Income and Expenditure Surveys (HHIES) data were obtained from four countries. The datasets used consisted of 2009 for Sudan and 2010/2011 for Egypt, Jordan and Palestine. In the study, the determinants of family spending on education for different population groups and the size of household spending for schooling were examined. In the study, a certain degree of consistency was found in education spending patterns among countries.

In the study of Wongmonta and Glewwe (2017), gender bias was investigated in the allocation of educational resources in Thailand. Data on education expenditures were used from the 2009 Socioeconomic Survey, including certain types of education expenditures. In the empirical study, the curves of Engel were estimated and gender bias was tested. The results show that girls receive more education.

The aim of the study of Zhang and Zhou (2017) is to examine the impact of household education expenditures on the performance of the National College Entrance Exam (NCEE) in China. Using a comprehensive data set with a sample size of 5840 students gathered in Jinan, China, this study found that the average impact of household education spending on NCEE performance was not significant, but could have a significant and positive effect on those with higher test scores.

Ebaidalla (2018) reviewed the factors that influence the education expenditures of household in Sudan using National Baseline Household Survey (NBHS) data from 2009 for national, urban, and rural areas. The study used the Tobit model. According to the results, household income, head of household education, household size, number of school-aged children, and residence in urban areas are the most important factors that influence education expenditures.

In their study, Acerenza and Gandelman (2019) analyzed households' educational spending using micro data from income and expenditure surveys for 12 Latin America, Caribbean countries and the USA. Bahamas, Chile and Mexico have the highest household spending in education, while Bolivia, Brazil and Paraguay have the lowest share. Higher education is the most important form of spending. According to the results obtained, gender bias was not found in primary education. More educated and richer household heads spend more on the education of household members. Urban households spend more than rural households.

There are studies that have been conducted in Turkey on the topic of education expenditures. Some of these were summarized below.

Tansel and Bircan (2006) completed the analysis of expenditures made for private tutoring centers in Turkey with the Tobit model. They used data from the 1994 Household Budget Survey. As a result of the analysis, it was concluded that households whose parents are high-income and have high levels of education transfer more resources to private tutoring centers. Also, expenditures tied to the age of the head of household exhibited, but a decreasing rate.

Tansel and Bodur (2012) study, male wage inequality in Turkey during the period from 1994 to 2002 and studied the returns to education. It is aimed to estimate Mincerian wage equations using normal least squares and quantile regression techniques. According to the obtained results were higher male wage inequality in Turkey. Education level had a positive effect on wage inequality.

In the study of Güriş and Çağlayan (2012), human capital theory was taken into account for wage determination. The differences in wage differences between education returns, returns and genders were analyzed. This study provides evidence for the return of education in Turkey. For this, Mincerian wage equation by using OLS, robust and resistant regressions were used. The results clearly show that return training for female employees is higher than male employees. However, when the results of experience returns were analyzed, it was seen that men definitely had higher returns than women in 2003 and 2006.

Ulusoy and Yolcu (2013) used data from 707 households with varying socioeconomic feasibilities in the 2011-2012 academic year in the province of Kastamonu. They performed the data analyses with the Kruskal Wallis H Test, t-test, and ANOVA test. Based on the acquired results, household education expenditures vary significantly based on the socioeconomic

environment of the school and transportation type. But the form of education created no significant difference. The education expenditures of families differentiate based on with whom the child lives, parental levels of education, parental occupational status, income level of the household, type of home residence, number of children studying in primary school and grade of enrollment.

Güngör and Göksu (2013) researched the topic of financing education in Turkey in their study and performed an international comparison. The study used data obtained from the World Bank, OECD, EUROSTAT and BUMKO in the comparison of education expenditures and mentioned the education budget goal for the future. As a result of the study, it was concluded that there was not adequate education financing in Turkey and that there existed differences between the countries.

Sülkü and Abdioğlu (2014) utilized the "Household Budget Survey" data in the study they conducted for the years 2003 and 2009 and comparatively studied the financial burden of out-of-pocket education expenditures over the income of households. They used the variables of income level, household type, income percentages, head of household education status, level of education, and status of access to education services. It was seen that situations of an increase in the education level of the head of household, increase in the household income level, being located in a city, living in socioeconomically developed regions, and having at least one child over the age of 18 increased the heavy financial burden of education expenditures. It was determined on the topic of access to education services that those living in rural areas and the impoverished were at a disadvantage.

Acar et al. (2016) estimated education expenditures for income groups with the Tobit model based on the Household Budget Survey data for the years 2003, 2007, 2012 and analyzed income elasticity for education expenditures with the Engel curve in their study. The variables of residing in rural areas, working status, age, head of household education, household size, shares within the household of female students and primary school students, and the total number of students were considered as demographic characteristics for the household. Based on the results of the analysis, education expenditure flexibility grew for all income groups. Although household size was significant in all estimations, the head of household education status was not found to be significant in any estimate. And despite the expenditures in households living in urban areas being higher in 2003, they decreased in later years and were not meaningful.

Patrinos, Psacharopoulos and Tansel (2019) study in 2017 Household Labor Force Survey, the authors estimated the private and social returns on investment in education in Turkey by using the data. According to the results obtained, the average schooling income is 7.9 percent in the public sector and higher in the private sector compared to 6.5 percent. In addition, the private return to vocational secondary education is higher with 6.5% compared to general secondary education 5.7.

There are numerous examples of studies conducted on financing education and the education expenditures of households in the literature. But the impoverishing effect of households' out-of-pocket expenses, meaning catastrophic expenditures, was realized more in the field of healthcare than education (Waggstaff and Doorslaer, 2003: 921; Xu et al., 2007: 973, Yereli et al., 2014: 281, Kuvat and Ayvaz Kızılgöl, 2018). In the literature, there is only the study by Sülkü and Abdioğlu (2014) regarding catastrophic education expenditures. This study completed a heavy financial burden definition for out-of-pocket expenditures; performed a detailed review for income level, household type, income percentages, head of household education status, rural-urban divide, lived region, education level and status of access to educational services; and completed separate evaluations with these variables.

The literature contribution of this study has four dimensions: First is the revelation of the determinants of the education expenditures that households make out of pocket and the determinants of catastrophic education expenditures and the measurement of the effect of these determinant factors over these expenditures. Second is the identification of the interaction of the education expenditures made out of pocket in terms of socioeconomic characteristics based on 20% income quintiles for the household. Third is the determination of the risk of out of pocket education expenditures being catastrophic. Fourth is that this study is one of the first conducted on this topic, differently from the studies found in the literature because no other study was encountered in the literature other than that which Sülkü and Abdioğlu (2014) conducted regarding catastrophic expenditures in the field of education in Turkey. It is also a study with a newer and larger-scale data set for Turkey.

3. DATA SET AND METHOD

3.1 Data Set and Variables

The study identified households that perform catastrophic education expenditures and attempted to determine the factors that affect these households' catastrophic education expenditures. The education expenditures households make out-of-pocket were analyzed by considering the socioeconomic properties of the households. The study also studied the interactions based on socioeconomic levels for the households for education expenditures made out of pocket for the 20% income quintiles.

The data used in the study was obtained from the 2017 TUIK Household Budget Survey microdata. The Household Budget Survey is one of the most important resources that provides information about the socioeconomic structures, levels of life, and models of consumption for households and is used to identify the needs of society, to know how usable income is distributed among households and members, and to test the validity of implemented socioeconomic policies. Information is compiled about types of consumption expenditure and the diversity of goods and services expenditures, the socioeconomic characteristics of the household, the employment status of members of the household, the total income of the household, the resources obtained with the income, and similar topics with this survey that reveals the consumption structures and income levels of individuals and the households they create based on socioeconomic group, rural, urban, and regions (www.tuik.gov.tr). There are three separate data sets in which household, member, and expenditure information are found in the Household Budget Survey. In these data sets are the variables regarding households, the variables regarding members, and the variables for consumption expenditure found based on 12 expenditure-groups comprising all goods and services expenditures that the household made in the month of the survey. This study used the education expenditures and total household expenditures found in the 10th group. The education expenditures in the 10th group are classified as expenditures relating to preschool, primary school, high school, post-secondary education and pre-higher education, university education and education that cannot be defined based on level (computer course, foreign language course, music and drawing course, exam form fees, and private class fees). The education expenditures of the household are all the expenditures made out-of-pocket to access educational products and services.

The 2017 Household Budget Survey was administered to a 1296 sample households each month for an annual total of 15552 sample households over the course of a year between January 1-December 31, 2017. Information was included for a total annual 12166 households because 3386 households did not respond to the survey. This study did not include all households in the Household Budget Survey into the analyses. The analyses included households whose total education expenditure was greater than zero, meaning households that made education expenditures. Thus, the analyses were completed with 2781 households.

In line with the studies in the literature, three variables were identified as the factors that determine the catastrophic education expenditures and the determinants for out-of-pocket education expenditures. These are variables relating to the head of household (age, gender, education status, marital status, and employment status of the head of household), variables relating to the characteristics of the household (household income, 20% income quintiles, household type, ownership status of household, status of access to education services, and per equivalent adult household size), and variables relating to students in the household (number of preschool-aged children, and number of primary-aged children, high school-aged children, and university-aged children). Households are separated into 20% income quintiles based on annual total disposable income while creating the 20% income quintiles, and the houses found in the 1st 20% income quintile are defined as the poorest while the houses in the 5th 20% income quintile are defined as the richest. The per equivalent adult household size is the renewed OECD equivalence scale and was taken from the Household Budget Survey.

3.2 Method

The factors that determine catastrophic education expenditures were analyzed using the Logistic regression method because the status of whether or not to accrue catastrophic education expenditure assumes a two-result value and the data are more consistent with the model. Catastrophic education expenditure is evaluated with the rate of household education expenditures to total consumption or income. This rate's exceeding certain threshold values is qualified as a catastrophe. There is no accepted approach in the literature regarding this threshold level. In some studies, 2.5%, 5%, 10%, 15%, and 20% are accepted as threshold values (Yereli et al., 2014: 281).

Households whose total education expenditure was greater than zero were considered in the study. The total

expenditures and total education expenditures for the households were made real with the CPI. Catastrophic education expenditures are defined as the rate of the education expenditures a household makes to the total expenditures:

Catastrophic Education Expenditure = Total household education expenditures / Total household expenditures

It is explained with the measurement of catastrophe with consumption rather than income, consumption being relatively more balanced than income, and income being more perceptive to conjectural fluctuations (Yereli et al., 2014: 281, Xu et al., 2007: 973). And consumption is evaluated as a better indicator compared with income in the empirical literature and is influenced less by measurement errors (Acar et al., 2016: 10). If the catastrophic education expenditure is equal to or greater than the threshold values mentioned above, then these households are specified as households that make catastrophic education expenditures. Therefore, the dependent variable of the Logit model takes a value of 1 for households that make catastrophic education expenditures and a value of 0 for households that do not. This study determined the households that do and do not make catastrophic education expenditures while noting the threshold values as 5%, 10%, and 20%. But the model was created regarding catastrophic education expenditures compared based on only a 5% threshold because statistically significant conclusions could not be reached in the models in which the factors that effect catastrophic education expenditures based on 10% and 20% thresholds were specified.

The education expenditures that households make out of pocket were analyzed from the Tobit model by noting the socioeconomic characteristics of the household. This study was selected as a Tobit model estimation method because it possessed an aggregation at the zero point for the distribution of education expenditures. This is because this method allows for the aggregation of the distribution for dependent variables at a point.

On the other hand, households were separated into 20% income quintile based on their annual total disposable income and the interactions of the household's out-of-pocket education expenditures based on the socioeconomic characteristics they possessed were reviewed using the Tobit models based on each income quintile. The dependent variables for the Tobit models are a logarithm for the total education expenditures for households.

4. ANALYSIS RESULTS

The empirical section of the study primarily determined the factors that affect catastrophic education expenditures for households and tried to reveal the effect of these factors over catastrophic education expenditures with help from the Logit model. The determinants for the education expenditures that households make out of pocket were analyzed with the help of the Tobit model. Table 1 presents the marginal effects for the Logit and Tobit model estimations.

Table 1: The Marginal Effects of the Logit and Tobit Model Estimations

Models	**Marginal Effects for Logit Model Estimation**		**Marginal Effects for Tobit Model Estimation**	
Dependent Variable	HH That Do and Do Not Make Catastrophic Education Expenditure		Logarithm of HH Education Expenditure	
Independent Variables	**Coef.**	**z**	**Coef.**	**t**
HH Annual Total Disposable Income	0.00000138	6.18[a]		
20% Income Quintiles of HH[1]				
Second quintile			0.284	2.62[a]
Third quintile			0.510	4.71[a]
Fourth quintile			0.825	7.54[a]
Fifth quintile			1.790	15.81[a]
Age of HH Head	0.003	2.45[b]	0.011	2.62[a]
Education Level of HH Head[2]				
High school, Graduated from university and above educational level	0.158	7.81[a]	0.589	8.05[a]
Employment Status of HH Head[3]				
Working	0.036	1.38	0.201	2.11[b]
HH Ownership Status[4]				
Home ownership	0.034	1.71[c]	0.125	1.82[c]
HH Access to Education Services[5]				
Moderate difficulty			-0.100	-0.91
Difficulty-much difficulty			-0.281	-2.69[a]
Per Equivalent Adult HH Size	-0.008	-0.38	-0.381	-5.11[a]
Number of Preschool-aged Children in HH	-0.123	-5.73[a]	-0.471	-6.58[a]
Number of Primary-aged Children in HH	-0.028	-1.96[b]	-0.085	-1.72[c]
Number of High School-aged Children in HH	0.048	2.71[a]	0.146	2.39[b]
Number of University-aged Children in HH	-0.049	-2.63[a]	-0.280	-4.48[a]
N	2781		2781	
R^2 Pseudo	0.070		0.099	
Log Likelihood	-1660.011		-3391.607	
LR chi2 Prob > chi2	251.300 0.000		752.440 0.000	

Note: P.S.: HH: Household, HHH: It refers to the household head. The basic class of the dependent variable of the logit model are, the households whose catastrophic education expenditure level is less than 5% threshold. For the dependent variable of the Tobit model, ln (household education expenditures) = 2.534, the number of observations from the left censored is 1390 and the number of uncensored observations is 1391. The main classes of the independent variables are (1): 1. 20% income bracket, 2: Illiterate or primary school graduates, 3: Not working, 4: Tenants, lodging or homeowners, 5: Easy-very easy. a, b and c show the statistical significance of the coefficients at 1%, 5% and 10% significance levels, respectively.

When evaluating the analysis results found in Table 1, an increase of the annual income of the household increases the possibility of the household accruing catastrophic education expenditures. The education

expenditures made by households found in the 2nd, 3rd, 4th and 5th 20% income quintiles are greater than the households found in the 1st 20% income quintile. This is because households in the 1st 20% quintile, which contains the most impoverished families, spend a significant portion of their incomes for their needs but are able to set aside only a small portion of their budgets for education expenditures. Therefore, this finding in the analysis is consistent with expectations. The results found for household income and percentage income quintiles exhibit similarities with the results of Qian and Smyth (2011) and Ebaidalla (2018). As the age of the head of household increases, it is observed that the level of catastrophic education expenditures and out-of-pocket education expenditures increase compared to the 5% threshold value for the household. This is consistent with the results obtained by Acar et al. (2016), Ebaidalla (2018), Sulaiman et al. (2012) and Andreou (2012). It was seen that the catastrophic education expenditures for households in which the head has completed high-school, university, or postgraduate studies increased compared with the households in which the head is illiterate or is a primary school graduate and that out-of-pocket education expenditures similarly increased. In the literature, the head of household is expected to be educated and to be a positive effect over the education investments of his or her children. Heads of household with high levels of education are more conscious about the importance of education and can make greater education expenditures for the education of their children. The results acquired in this study support the conclusion of Acar et al. (2016), Ebaidalla (2018) and Quang (2012). While the employment status of the head of household is not effect over the catastrophic level of expenditure, it effects out-of-pocket expenditures in a statistically significant manner. When comparing heads of household who work with those who do not work, it is determined that the households made greater out-of-pocket education expenditures. Qian and Smyth (2011) reached the same conclusion when reviewing the literature. Home ownership in households increases both catastrophic expenditures and expenditures made from their own budgets for education compared with home renters, public housing and those who do not own their home. When regarded from the perspective of household access to education services, it is seen that the out-of-pocket education expenditures of households that have some or much difficulty accessing education services decrease relative to households that can access easily or very easily. While per equivalent adult household size is not a determinant factor over catastrophic education expenditures, it does have a statistically significant effect over the education expenditures that the household makes out of pocket. An increase in the number of members living in the household decreases expenditures the household makes for education. Because there is a patriarchal family structure in Turkey, it is a common situation for large families (crowded families comprising parents, child/ren, grandparents, aunts, uncles and similar relatives) to live together in the same household. This situation is more often compared in lower-education households (in low-income households). In other words, impoverished households are generally more crowded than high-income households. They can, for this reason, set aside a smaller portion of their income for education expenditures. In this situation, the size of household is expected to have a negative effect on education expenditures. The conclusion reached in this study meets expectations. When reviewing the education expenditures in terms of the number of children being educated per household in Table 1, it is seen that catastrophic education expenditures and education expenditures the household makes from its own budget decrease should the number of preschool children and the number of children studying in primary school and university increase but also that the possibility of both expenditures increases should the number of children studying in high school increase. Textbooks have been distributed to students for free in our country since 2004. Therefore, it appears to be a result that expects education expenses for children studying in primary school to be few. The ability for students studying at university to fund their own education expenditures by working is relevant. Thus, the limited amount of education expenditures for children studying at university is an expected result. But because students studying in high school must go to tutoring centers or take special courses to be able to prepare to take the university entrance exam, they are forced to set aside a significant portion of their household incomes for education expenditures. In other words, the finding of education expenditures being greater for students studying in high school meets expectations.

The study also studied the interactions based on socioeconomic levels for the households for education expenditures made out of pocket for the 20% income quintiles using Tobit models. Households found in the 1st 20% income quintile were specified as the poorest and those found in the 5th 20% income quintile were specified as the richest. Table 2 provides the marginal effects for Tobit model estimations.

Table 2: Marginal Effects for Tobit Estimations for Household Education Expenditure by Income Quintile

Dependent Variable Logarithm of HH Education Expenditure	**Marginal Effects**				
	20% Income Quintiles				
Independent Variables	**First Quintile**	**Second Quintile**	**Third Quintile**	**Fourth Quintile**	**Fifth Quintile**
Age of HH Head					0.027 (3.52)[a]
Gender of HH Head[1]					
Male		-0.539 (-2.12)[b]			
Marital Status of HH Head[2]					
Married				1.036 (2.21)[b]	
Education Level of HH Head[3]					
High school, Graduated from university and above educational level	0.819 (5.33)[a]	0.415 (2.92)[a]	0.582 (3.87)[a]		0.604 (4.08)[a]
Employment Status of HH Head[4]					
Working		0.492 (2.61)[a]			0.708 (3.25)[a]
HH Type[5]					
Single-child nuclear families	-0.469 (-2.16)[b]				
Two-child nuclear families	-0.485 (-2.13)[b]				
Three or more children nuclear families	-0.423 (-1.45)				
Patriarchal or expansive families	-0.886 (-2.77)[a]				
People who live together such students, workers, etc.	0.431 (0.70)				
HH Ownership Status[6]					
Home ownership	0.289 (2.09)[b]				
HH Access to Education Services[7]					
Moderate difficulty		-0.483 (-1.87)[c]			
Difficulty-much difficulty		-0.323 (-1.66)[c]			
Per Equivalent Adult HH Size	0.374 (2.06)[b]	0.190 (1.28)		-0.907 (-5.84)[a]	-0.849 (-5.63)[a]
Number of Preschool-aged Children in HH	-0.881 (-6.36)[a]	-0.543 (-4.35)[a]	-0.311 (-2.18)[b]	-0.284 (-1.95)[c]	-0.223 (-1.77)[c]
Number of Primary-aged Children in HH	-0.309 (-3.08)[a]	-0.270 (-2.71)[a]	-0.192 (-1.96)[b]	0.026 (0.27)	0.169 (1.83)[c]
Number of High School-aged Children in HH	-0.307 (-2.51)[b]	0.011 (0.09)	-0.108 (-0.92)	0.297 (2.35)[b]	0.349 (3.04)[a]
Number of University-aged Children in HH	-0.389 (-2.62)[a]	-0.107 (-0.81)	-0.509 (-3.66)[a]	-0.202 (-1.55)	0.019 (0.18)

Note: HH: Household, HHH: It refers to the household head. The main classes of the independent variables are 1: Women, 2: Single, 3: Illiterate or primary school graduates, 4: Not working, 5: Children without children or single adults, 6: Tenants, lodging or homeowners, 7: Easy-very easy. Values in parentheses are t statistics. a, b and c show the statistical significance of the coefficients at 1%, 5% and 10% significance levels, respectively.

According to Table 2, education expenditures increase for the households characterized as the richest as the age of the head of household increases. Education expenditures of households whose head is male decrease in the 2nd 20% quintile compared with those whose heads of household are female while the education expenditures of households whose head is married increase compared with those whose heads are unmarried. The education expenditures that households whose head has completed high-school, university, or post-graduate studies increase in all income quintiles relative to the households whose head is illiterate or has graduated from primary school. When comparing heads of household who work with those who do not work, it is observed that education expenditures increase in the 2nd and 5th 20% income quintiles. When evaluating in terms of household type, it was concluded that the education expenditures lowered in single-child and two-child nuclear families and in male-dominated or expansive families compared with families without children or single-parent families in the income quintile defined as the poorest (1st 20%). It is seen that households comprising people who live together such students, workers, etc. and nuclear families with three or more children had no statistically significant effect over out-of-pocket education expenditures. The household owning its home increases education expenditures relative to being a renter, residing in public housing, or not being a home owner. Households that own their home make greater education expenditures compared with others. When evaluated in terms of access to education services, those who have moderate difficulty, difficulty, or much difficulty accessing make fewer education expenditures compared with those who easily or very easily access education. When the number of individuals living in the household increases, education expenditures increase in the 1st 20% income quintile while decreasing in the 4th and 5th income quintiles. When evaluating education expenditures based on school-aged children in a household, the education expenditures decrease in all income quintiles when the number of preschool-aged children increases. Should the number of children studying in primary school increase, expenditures decrease in the first three income quintiles while the out-of-pocket education expenditures increase in the richest income quintile. An increase in the number of children studying in high school in a household reduces the education expenditures for households in the poorest income quintile (1st 20%) while increasing in the rich income quintiles (4th and 5th 20%). Finally, an increase in the number of children studying at university within the household reduced the education expenditures for the poorest and average-income families.

5. CONCLUSION

In this study, using the logit and Tobit models in Turkey in 2017 with the data obtained from the Household Budget Survey of factors affecting catastrophic education expenditures of households and determinants of out-of pocket education expenditures is evaluated. The results of the study show that some characteristics of households and parents are incredibly important in the determination of household education expenditures. According to the results obtained from the Logit and Tobit analyses, as the annual household income, age of the head of household and the education level increase and in situations where the household owns the home, the catastrophic household education expenditures and out-of-pocket education expenditures increase compared to a 5% threshold value. Compared to the households in the 1st 20% income quintile, the out-of-pocket education expenditures in the other percentage income quintiles is greater. Households in the 1st 20% quintile, which contains the most impoverished families, spend a significant portion of their incomes to resolve their needs and are able to set aside only a small portion of their budgets for education expenditures. In situations where access to educational services is difficult or very difficult and when the number of individuals living in a household increases, out-of-pocket education expenditures decrease. The increase in the number of pre-school-, primary-school-, university aged children receiving an education in the household reduces the catastrophic education expenditures and the out-of-pocket education expenditures. Despite this, both expenditures exhibit an increase when the number of children studying in high school increases. Even if the employment status of the head of household is not effect over the catastrophic level of expenditure, it has a statistically significant effect over out-of-pocket expenditures.

Using the Tobit models, the study also researched the interactions based on socioeconomic levels for the households for out of pocket education expenditures 20% income quintiles. As the age and education level of the head of household increases, education expenditures also increase should the head of household be working, married and own the home. On the other hand, the head of household being a male and access to education services being moderate and difficult-very

difficult reduce out-of-pocket education expenditures. Education expenditures decrease in single-child nuclear families, two-child nuclear families and patriarchal or expansive families compared to families without children or single-parent families. An increase in the number of individuals living in the household increases education expenditures in the 1st 20% income quintile while decreasing in the 4th and 5th percentage income quintiles. When reviewing in terms of the number of children, increases in the number of pre-school-, primary-school- and university-aged children generally reduces the education expenditures. An increase in the number of children studying in high school reduces the education expenditures for households in the poorest income quintile (1st 20%) while increasing in the rich income quintiles (4th and 5th 20%).

The development of education opportunities and providing for the continuity of services are two of the main elements in the increase of socioeconomic development. An increase in the amount of support given to education per capita will open the door to multifaceted advancement and the gaining of educational growth. The decrease in out-of-pocket education expenditures and the drop in the possibility of accruing catastrophic expenditures bring along with them an increase in both the quality of education that people receive and people's length of education. However, the determination of the amounts of support to be given for educational gains and the determination of to whom the support will be given are important problems that must be resolved. Also; the government should take measures to enable its citizens to benefit from educational opportunities in line with the needs of the labor market. For this reason, it is very important to design a more inclusive education system that enables students to benefit from a diversified environment and to ensure the functioning of this system. Individuals who are educated in this way will reach their highest potential and the results of this will create social and economic gains. These acquired results are a resource that educational economists and decision-makers can use in developing policies, planning investments in education and evaluating education processes that are currently being conducted. In short, we believe that the findings of this study will be beneficial to policy makers in creating an effective, equal and equitable education finance system.

In the continuation of the research, estimating equations for households with students who attend public schools and private schools can be established for policy developers to define private schools and their effects can be analyzed. In addition, trend relationships rather than snapshots can be examined through longitudinal long-term studies.

REFERENCES

Acar, E. Ö., Cilasun, S. M. and Günalp, B. (2016, April). An Analysis of Education Expenditures in Turkey by Income Groups. *The Economic Research Forum Working Papers* (No. 991), 1-28.

Acerenza, S., and Gandelman, N. (2019). Household Education Spending in Latin America And The Caribbean: Evidence From Income And Expenditure Surveys. *Education Finance and Policy*, *14*(1), 61-87.

Ahmad, Z. and Batul, T. (2013). Relationship among Poverty, Education Expenditure, and Education Status: Empirical Evidence from Pakistan.. *In Proceedings of the World Congress on Engineering* (1), 3-5.

Andreou, S. N. (2012). Analysis of Household Expenditure on Education In Cyprus. *Cyprus Economic Policy Review*, 6(2), 17-38.

Aslam, M. and Kingdon, G. G. (2008). Gender and Household Education Expenditure In Pakistan. *Applied Economics*, 40(20), 2573-2591.

Azam, M., and Kingdon, G. G. (2013). Are Girls The Fairer Sex in India? Revisiting Intra-Household Allocation Of Education Expenditure. *World Development*, *42*, 143-164.

Boateng, N. A. (2014). Does Public Expenditure Management Matter For Education Outcomes?. *Development Southern Africa,* 31(4), 535-552.

Çınaroğlu, S. and Şahin, B. (2016). Katastrofik Sağlık Harcaması ve Yoksullaştırıcı Etki. Hacettepe Sağlık İdaresi Dergisi, 19(1), 73-86.

Donkoh, S. A. and Amikuzuno, J. A. (2011). The Determinants Of House Hold Education Expenditure in Ghana., Educational Research and Reviews, 6(8), 570-579.

Ebaidalla, E. M. (2018). Understanding Household Education Expenditure In Sudan: Do Poor and Rural Households Spendless on Education?. *African Journal of Economic Review*, 6(1), 160-178.

Güngör, G. and Göksu, A. (2013). Türkiye'de Eğitimin Finansmanı ve Ülkelerarası Bir Karşılaştırma. *Yönetim ve Ekonomi: Celal Bayar Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi,* 20(1), 59-72.

Güriş, S., and Çağlayan, E. (2012). Returns To Education And Wages In Turkey: Robust And Resistant Regression. *Quality and Quantity*, *46*(5), 1407-1416.

Habibov, N., and Cheung, A. (2016). The Impact Of Unofficial Out-Of-Pocket Payments On Satisfaction With Education in Post-Soviet Countries. *International Journal of Educational Development*, *49*, 70-79.

Kuvat, Ö. and Ayvaz Kızılgöl, Ö. (2018, December). *Türkiye'de Katastrofik Sağlık Harcamaları: 2016 Hanehalkı Bütçe Araştırmasının Analizi*, II. International Symposium on Economics, Finance and Econometrics, Bandırma Onyedi Eylül Üniversitesi, Balıkesir.

Mettle, F. O., Nortey, E. N., Aikins, M. and Ennin, C. (2011). Catastrophic Spending on Education in Ghana: An Analysis of the Ghana Living Standards Survey (Fourth Round). *Research Journal of Mathematics and Statistics*, 3(4), 123-129.

OECD (2002). Financing Education, Executive Summary, Investment and Returns Analysis of the World Education Indicators, *UNESCO/UIS*, Paris.

Patrinos, H. A., Psacharopoulos, G., and Tansel, A. (2019). Returns To Investment in Education: The Case Of Turkey. *Turkish Economic Association Discussion Paper* 2019/2, 22 pages.

Qian, J. X. and Smyth, R. (2011). Educational Expenditure in Urban China: Income Effects, Family Characteristics and The Demand For Domestic and Overseas Education. *Applied Economics,* 43(24), 3379-3394.

Quang, V. (2012). Determinants of Educational Expenditure in Vietnam. *International Journal of Applied Economics*, 9(1), 59–72.

Rizk, R. and Owusu-Afriyie, J. (2014). Determinants of Household Expenditure on Childrens Education in Egypt. *International Journal of Education Economics and Development*, *5*(4), 332-360.

Rizk, R., and Abou-Ali, H. (2016, May). Out Of Pocket Education Expenditure And Household Budget: Evidence From Arab Countries. *Economic Research Forum Working Papers* (No. 996).

Sulaiman, N., Ismail, R., Othman, N. and Tin, P. B. (2012). The Determinants of Demand For Education Among Households In Malaysia. *International Business Management*, 6(5), 558-567.

Sülkü, S. N. and Abdioğlu, Z. (2014). Cepten Yapılan Eğitim Harcamalarının Hanehalkı Gelirine Mali Yükü: Türkiye İçin İstatistiksel Bir Analiz. *Yönetim ve Ekonomi Araştırmaları Dergisi*, 12(24), 338-355.

Tansel, A. and Bircan, F. (2006). Demand for Education In Turkey: A Tobit Analysis of Private Tutoring Expenditures. *Economics Of Education Review*, 25(3), 303-313.

Tansel, A., and Bodur, F. B. (2012). Wage Inequality And Returns To Education In Turkey: A Quantile Regression Analysis. *Review of Development Economics*, *16*(1), 107-121.

Tilak, J. B. (2002). Determinants Of Household Expenditure on Education in Rural India. *National Council of Applied Economic Research,* (No. 88). New Delhi:

TÜİK (2017), Hanehalkı Bütçe Anketi Mikro Veri Seti, Ankara.

TÜİK, http://www.tuik.gov.tr (01.01.2019).

Ulusoy, B. and Yolcu, H. (2014). Household Expenditures on Education by Parents of Students Attending Publics Chools at the Primary Education Level. *Kastamonu Education Journal*, 22(3), 1091-1112.

Wagstaff A. and Van Doorslaer E. (2003). Catastrophe and Impoverishment in Paying for Health Care: With Applications to Vietnam 1993-1998. *Health Economics*,12(11), 921-34.

Wongmonta, S., and Glewwe, P. (2017). An Analysis Of Gender Differences In Household Education Expenditure: The Case Of Thailand. *Education Economics*, *25*(2), 183-204.

Xu, K.,Evans, D. B., Kadama, P., Nabyonga, J., Ogwal, P. O., Nabukhonzo, P. and Aguilar, A. M. (2007). Understanding the Impact of Eliminating User Fees: Utilization and Catastrophic Health Expenditures in Uganda, *Social Science &Medicine*, 62, 866-876.

Yereli, A. B., Köktaş, A. M. and Selçuk, I. Ş. (2014). Türkiye'de Katastrofik Sağlık Harcamalarını Etkileyen Faktörler. *Sosyoekonomi,* 2, 273-296.

Yolcu, H. (2011). Hanehalkının Eğitim Harcamalarını Etkileyen Etmenler: Kuramsal Bir Çalışma. *Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi,* 3(5), 12-35.

Yumuşak, İ. (2008). Beşeri Sermayenin Iktisadi Önemi ve Türkiye'nin Beşeri Sermaye Potansiyeli. *Sosyal Siyaset Konferansları Dergisi*, (55), 3-48.

Zhang, Y., and Zhou, X. (2017). Can Higher Household Education Expenditure Improve the National College Entrance Exam Performance? Empirical Evidence from Jinan, China. *Current Issues in Comparative Education*, *19*(2), 8-32.

MAKALE GÖNDERME VE YAZIM KURALLARI

Dergide yayınlanmak üzere gönderilen yazıların daha önce başka bir yerde yayınlanmamış veya yayınlanmak üzere gönderilmemiş olması gerekir. Daha önce konferanslarda sunulmuş ve özeti yayınlanmış çalışmalar, bu durum belirtilmek üzere kabul edilebilir. Yayın için gönderilmiş çalışmalarını gecikme veya diğer bir nedenle dergiden çekmek isteyenlerin bir yazı ile başvurmaları gerekir. Yayın kurulu Ege Akademik Bakış Dergisi için gönderilmiş yazılarda makale sahiplerinin bu koşullara uymayı kabul ettiklerini varsayar. Dergiye gönderilen yazılara telif hakkı ödenmez.

Yayın kurulu, yayın koşullarına uymayan yazıları yayınlamamak, düzeltmek üzere yazarına geri vermek, biçimce düzenlemek yetkisine sahiptir. Yayınlanmak üzere gönderilen yazılar, yayın kurulunun uygun gördüğü en az iki hakem tarafından değerlendirildikten sonra yayınlanması uygun görülürse dergide basılır.

Derginin yayın dili Türkçe ve İngilizce'dir. Yazıların Türk Dil Kurumu'nun Türkçe Sözlüğü'ne ve Yeni Yazım Kılavuzu'na uygun olması gerekir.

Yazışma Adresi: Doç. Dr. Nazif Çatık, Ege Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, Ege Akademik Bakış Dergisi Editörü, e-posta: eab@mail.ege.edu.tr

Elektronik (Online) Makale Başvurusu

Ege Akademik Bakış dergisine makale başvuruları www.onlinedergi.com/eab adresinden ulaşabileceğiniz çevrimiçi makale gönderme sistemi üzerinden yapılır. Elektronik ("online") başvuru sırasında karşılaşacağınız herhangi bir sorunla ilgili olarak dergi sekreteryası ile iletişime geçebilirsiniz.

Makalenin editör kurulu tarafından yapılacak ön değerlendirmede reddedilmesi durumunda yazarlardan başvuru ücreti alınmamaktadır. Makale, editör kurulu tarafından yapılacak ön değerlendirmeyi geçtiği takdirde dergiye yönelik maliyetlerin karşılanması amacıyla 140 TL tutarındaki değerlendirme ücreti dergi sekreteryası tarafından bildirilecek banka hesabına yatırılmalıdır. Ödemenin yapıldığına dair banka dekontunun dergi sekretaryasına e-mail ile (eab@mail.ege.edu.tr) ulaştırılması durumunda makale hakem sürecine sokulacaktır. Makale başvuru ücreti geri ödenmemektedir.

İletişim:

Gül Huyugüzel Kışla-Fatma Demircan Keskin

Ege Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, Bornova, 35100 İzmir, Türkiye Tele-Faks: +90 232 342 38 21 E-posta: eab@mail.ege.edu.tr

Yazım Kuralları Lütfen makalenizi dergi yazımı ile ilgili kuralları ve aşağıdaki örnek makaleyi dikkate alarak dergimize gönderiniz.

1. Özet

Özet 250 kelimeden az olmalı çalışmanın kapsamını ve temel bulguları içermelidir. Özetten sonra en az 3 anahtar sözcüğe yer verilmelidir. Anahtar sözcük listesinden sonra, varsa en az 3 JEL kodu eklenmelidir.

2. Ana Metin

Ana metin tablo, şekil ve referanslar dahil 35 sayfayı aşmamalıdır. Makaleler çift satır aralıklı ve A4 boyutunda yazılmalıdır. Makale gönderiminden önce yazı ve referanslarda hata olup olmadığı kontrol edilmelidir.

3. Tablo ve Şekiller

Tablo ve şekiller metnin uygun yerlerinde ardışık numaralandırılmış bir şekilde gösterilmelidir. Her şekil ve tabloya bir başlık verilmelidir. Tablo ve şekillere başka bir yerden alındığı takdirde kaynak gösterilmelidir.

4. Kaynaklar

4.1. Kaynaklar metin içinde şöyle gösterilmelidir: Arellano ve Bond (1991), kaynak gösterilen makale birden fazla yazara aitse Arreallano ve diğerleri (1995). Eğer bir yazarın aynı yıla ait birden fazla çalışması var ise Arellano (1997a) ve Arellano (1997b) gibi her yıl için alfabetik olarak sıralanmalıdır.

4.2. Kaynaklar makalenin sonunda yer almalıdır ve aşağıdaki örneklerde de gösterildiği gibi yazarın soyadına göre sıralanmalıdır.

Dergiler

İki yazar için: Arellano, M. ve Bond, S. (1991) "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations" *Review of Economic Studies*, 58: 277-297.

İkiden fazla yazar için:

Arellano, M., Bover, O. ve McLaugh, D. (1995) "Another Look at the Instrumental Variable Estimation of Error-Component Models" *Journal of Econometrics*, 68(1): 29-52.

Kitaplar

İki yazar için:

Cooke, P. (2004) "Regional Innovation Systems – An Evolutionary Approach" Cooke et al. (eds.) *Regional Innovation Systems*, 2nd Edition, London, Routledge.

İkiden fazla yazar için:

Cooke, P., Stephen, R. ve Wylie, P. (2003) *Northern Ireland's Evolving Regional Innovation System*, 3rd Edition, London, Routledge

İnternet Kaynakları

TÜBITAK (2006), http://www.tubitak.gov.tr/ hakkimizda/2004/ek7/EK_7.pdf, (05.05.2006) (Kaynağa ulaşım tarihi parantez içinde verilmelidir.)

SON NOTLAR

Lütfen dipnot yerine son notları kullanınız. Son notlar metnin ilgili yerinde üst simgeler kullanılarak verilmeli ve makalenin sonunda yer almalıdır.

SUBMISSION GUIDELINES

All submitted works must be original, must not have appeared elsewhere, and must not be submitted for publication elsewhere while under consideration by Ege Academic Review. Those works which have been presented in conferences and whose abstracts have already been published can be accepted for consideration on the condition that the presentation and publication dates and places are stated to the editor. Authors who wish to withdraw their submitted works for delays or any other reason should write to the editor. Submission of a manuscript for review is assumed by the editorial board the acceptance of these conditions by the authors. There will be no royalty payment to the authors.

The editorial board reserves the right not to accept manuscripts for consideration if they do not follow submission guidelines, to return them for revisions, or to organize them in the house style. All submitted works for publication undergo peer review, based on initial screening by editors and subsequent doubleblind refereeing by at least two reviewers. They are published only if they are found proper for publication.

The working languages of Ege Academic Review are Turkish and English. Articles in Turkish should follow the Dictionary and Spelling Guide of the Turkish Linguistic Society (http://www.tdk.org.tr).

Manuscripts and all editorial correspondence should be addressed to: The Editor, Assoc. Prof. Dr. Nazif Çatık, Ege University, Faculty of Economics and Administrative Sciences, The Journal of Ege Academic Review, e-mail: eab@mail.ege.edu.tr.

Online Manuscript Submission

Manuscript submissions to the Journal of Ege Academic Review must be made using the online manuscript submission system at www.onlinedergi.com/eab. Users should register when accessing the online system for the first time. If you experience any problem with the online submission please contact with the journal secretariat.

If the paper is rejected by the Editorial board, authors do not have to pay a fee. If the paper passes the preliminary assessment process by the Editorial board, of $50 should be paid to the bank account provided by the Journal Secratariat as the submission fee to cover processing costs. The manuscript will be sent to referees when the scanned copy of the bank receipt of payment is e-mailed to the Journal Secratariat. Submission fee is non-refundable.

Contact

Gül Huyugüzel Kışla-Fatma Demircan Keskin

Ege Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, Bornova, 35100 İzmir, Türkiye Tele-Fax: +90 232 342 38 21

E-mail: eab@mail.ege.edu.tr

The Journal Writing Style

Please submit your papers to our journal by considering the style guidelines and the sample paper given below.

1. Abstract

The abstract should be fewer than 250 words and should cover the scope of the work and summarize the main findings. At least 3 keywords should be listed below the abstract. If available, at least 3 Journal of Economic Literature (JEL) classification codes should be added after the keywords list.

2. The manuscript

Manuscripts should not exceed 35 pages of text including tables, figures and references. Manuscripts should be typed with a double spacing on one side of A4 paper only. The text and references should be checked for the errors before submission.

3. Tables and Figures

Tables and Figures should be embedded in the convenient place of the text and numbered consecutively in Arabic numerals. Each figure and table should have a caption. The source of tables and figures should be given if they are taken from elsewhere.

4. References

4.1. References should be cited in the text as follows: Arellano and Bond (1991), if the paper is written by more than two authors Arellano et al., (1995). If there is more than one work by an author in a given year, they should be labeled alphabetically within each year, such as Arellano (1997a) Arellano (1997b).

4.2. The references should be placed at the end of the paper and arranged in alphabetical order by authors' last names, as shown in examples below.

Periodicals / Journals

For two authors:

Arellano, M. ve Bond, S. (1991) "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations" Review of Economic Studies, 58: 277-297.

More than two authors:

Arellano, M., Bover, O. ve McLaugh, D. (1995) "Another Look at the Instrumental Variable Estimation of Error-Component Models" Journal of Econometrics, 68(1): 29-52.

Books

Cooke, P. (2004) "Regional Innovation Systems – An Evolutionary Approach" Cooke et al. (eds.) Regional Innovation Systems, 2nd Edition, London, Routledge.

More than two authors:

Cooke, P., Stephen, R. ve Wylie, P. (2003) Northern Ireland's Evolving Regional Innovation System, 3rd Edition, London, Routledge

Internet sources:

TUBITAK (2006), http://www.tubitak.gov.tr/ hakkimizda/2004/ek7/EK_7.pdf, (05.05.2006) (Access date should be written in parenthesis)

END NOTES

Please use endnotes rather than footnotes. Endnotes should be marked by consecutive superscript numbers in the related part of the text, and listed at the end of the article.